

OREGON CULTURAL RESOURCE SITE RECORD

ADMINISTRATIVE DATA

Site Number: (b) (3) Cultural Resources (ARPA, Sec. 3)

Site Name: REDMOND CAVES (b) (3) Cultural Resources (ARPA, Sec. 3) Parcel

Smithsonian Number: (b) (3) Cultural Resources (ARPA, Sec. 3)

Other Temp. #: (b) (3) Cultural Resources (ARPA, Sec. 3)

(b) (3) Cultural Resources (ARPA, Sec. 3)

Project Number:

Owner: Bureau of Land Management

County: Deschutes

State: OR

Administrative Location: BLM Prineville Deschutes Resource Area

LOCATIONAL DATA

Legal Description:

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

UTM Zone (b) (3) Cult

Easting: (b) (3) Cultural Resou

Northing: (b) (3) Cultural Resources

Corrected GPS? N

USGS 7.5' Quad(s):

Quad Name: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Quad Date: 1982

Quad Datum: NAD27

Describe Access to Site From Permanent Feature and How to Find Primary Datum:

Donation Land Claim (DLC): 0

ENVIRONMENTAL DATA

Province: z(obsolete) High Lava Plain Basin: Deschutes Sub-Basin: z(obsolete) Middle Deschutes

Elevation (feet): 3060 Slope: % Aspect: UN

Depositional Environment Primary: Unknown Environment Secondary: None

Surface Sediment Texture On Site: (Check as many as needed)

Sand: N Silt: N Clay: N Cinder: N Bedrock: N Lithosols: N Gravel: N Other: N

Soil Description:

Primary Vegetation Community On Site:

Unknown

Secondary Vegetation Community:

Unknown

Culturally Significant Vegetation:

On Site :

Surrounding Site:

Water Source(s):

Other Environmental Features/Observations (Relevant To Site Location/Formations):

PHYSICAL DATA

Site Type(s):

(b) (5) Cultural Resources (ARPA, Sec. 304, NHPA)

Other Artifacts Present at Site:**Site Description:**

1983 Visit: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

2012_October, T. Holtzapple: The University of Oregon, Patrick O'Grady surveyed and excavated sites and Cave in the Redmond parcel between 2003 and 2006. Sec (b) (5) Cultural Resources (ARPA, Sec. 304, NHPA)

The final summary and evaluation to the NRHP has not been completed because U of O does not have time to complete. Robert F. Heizer collected (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) to the State Museum of Natural History, Univ. of Oregon.

A series of interim reports have been completed and include

Helzer, Margaret M. 2003 Redmond Caves Archaeological Project An Interim Report: Fall 2002, State Museum of Anthropology, University of Oregon.

Helzer, Margaret M. 2003 Redmond Caves Archaeological Project An Interim Report: Spring 2003, State Museum of Anthropology, University of Oregon.

Helzer, Margaret M. 2004 Redmond Caves Archaeological Project An Interim Report: Fall 2003 2004, State Museum of Anthropology, University of Oregon.

Helzer, Margaret M. 2004 Redmond Caves Archaeological Project An Interim Report: Spring 2004, State Museum of Anthropology, University of Oregon.

O'Grady, Patrick 2005 Redmond Cave No. (b) (5) Cultural Resources (ARPA, Sec. 304, NHPA) Summary, University of Oregon.

O'Grady, Patrick 2006 Redmond Cave No. (b) (5) Cultural Resources (ARPA, Sec. 304, NHPA) Summary, University of Oregon.

O'Grady, Patrick 2006 Redmond Cave No. (b) (5) Cultural Resources (ARPA, Sec. 304, NHPA) Summary, University of Oregon.

O'Grady, Patrick 2006 Redmond Cave No. (b) (5) Cultural Resources (ARPA, Sec. 304, NHPA) Summary, University of Oregon.

O'Grady, Patrick 2006 Redmond Cave No. (b) (5) Cultural Resources (ARPA, Sec. 304, NHPA) Summary, University of Oregon.

The reports indicate sites have been assigned temporary and state trinomials:

(b) (5) Cultural Resources (ARPA, Sec. 304, NHPA) - assumption this may be Heizer's (b) (5) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (5) Cultural Resources (ARPA, Sec. 304, NHPA)

Site Number:



and a variety of isolates

(B) (5) Cultural Resources (ARPA, Sec. 304, NFPA)

Site Dimensions: 0 x 0 **Site Area:** 0 **Sq. Feet** **Acres:** 0.00

Cultural Depth (Y/N/U):

Type of Evidence for Cultural Depth:

Cultural Depth: 0 cm Soil surface to top of cultural deposit.

0 cm Soil surface to known bottom of deepest cultural deposit.

Cultural Period: Prehistoric Unknown

Method for Determining Cultural Period: Artifact type

Date Range for Site: Beginning Ending 0

Method for Determining Date Range:

Site Condition: Unknown **Impacting Agent(s):**

Description of Damage:

Research/Site Testing (Y/N):

Site Has Been Tested: **Data Recovery:** **C-14 Dating:** **Other Testing:**

Obsidian Sourcing/Hydration:

Surface Area Formally Excavated: m2

Volume of Excavated Deposits: m3

Testing Comments:

Interpretation of Site Function:

Present Use and Expected Impacts:

MANAGEMENT DATA

NRHP Status: Unevaluated

Primary National Register Criteria: Unevaluated

Justification:**Significance Level: (indicate all that apply)**

Local: U State: U Regional: U National: U

Management Comments:**Artifacts and Other Materials Collected (Y/N): U****Date(s) Collected:****Present Location of Collection:** Other location**Description and Catalog Numbers of Collected Materials: (diagnostic only)****Associated Reports (past projects):**

PROJECT NUMBER

PROJECT NAME

REPORT DATE

SHPO BIBLIO #

(0) (1) Cultural Resources (ARPA, Sec. 3)

REDMOND TRAINING AREA

10/12/1983

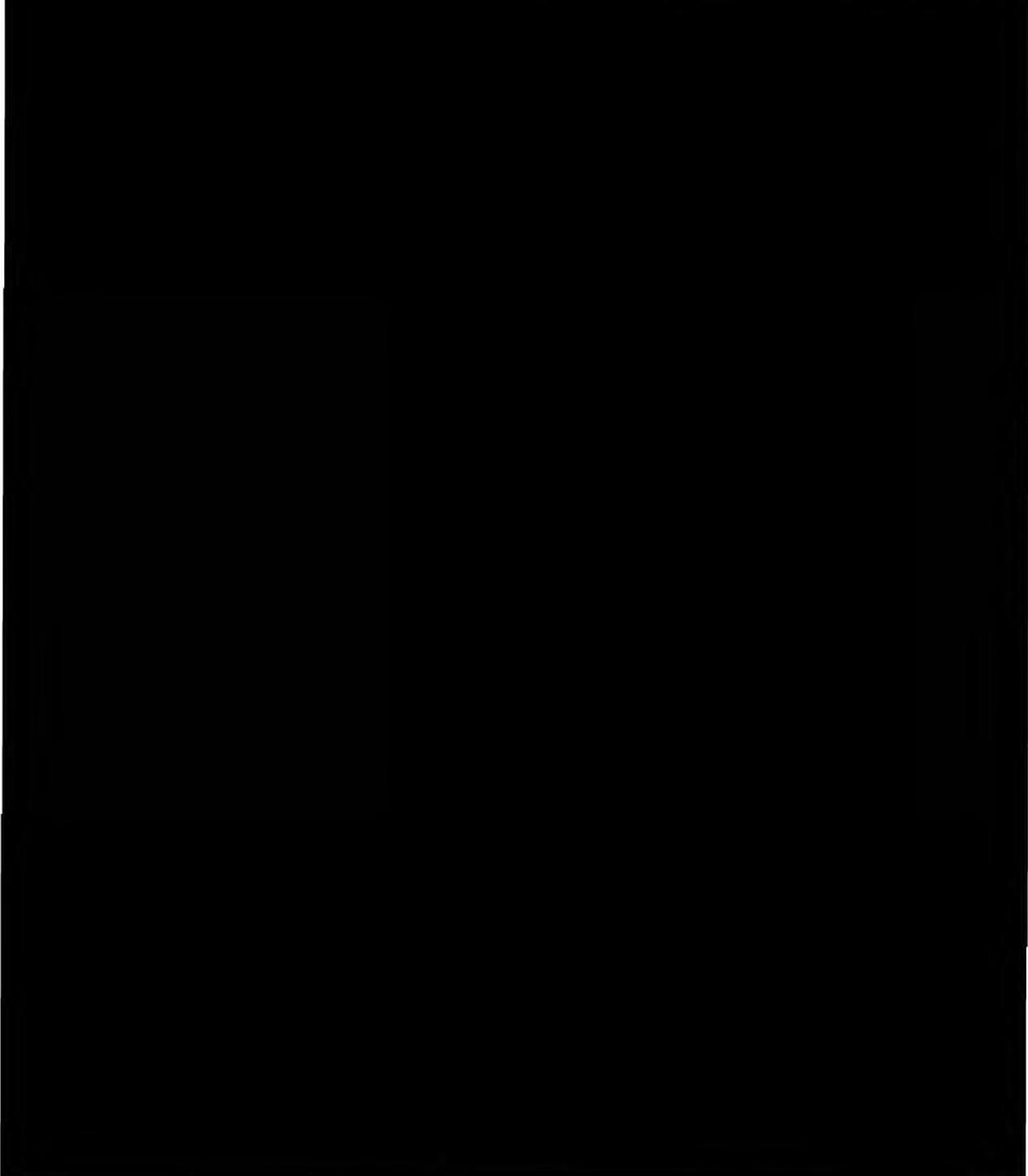
(0) (2) Cultural Resources

References:**Names of Recorder(s):** R.Lee Lyman**Field Visit Date:** 9/6/1983**Name of Site Record Author(s):****Title:****Agency:** BLM Prineville Deschutes Resource Area**Site Record Completion Date:** 10/15/2012

Prineville BLM
Redmond Caves

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



0 0.125 0.25 0.5 0.75 1 Miles



Oregon Archaeological Survey
University of Oregon Museum of Natural History

Redmond Caves
Site No [REDACTED]

Deschutes

Cultural Area [REDACTED]

Type of Site [REDACTED]

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Property Location [REDACTED]

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Site Location UTM [REDACTED]

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Site Description [REDACTED]

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Area of occupation [REDACTED]

Depth and character of fill aeolian sandy loam; unknown depth, but potentially 3-4 m

Vegetation cover juniper, sagebrush, cheat grass outside of caves

Present condition disturbed by relic collectors, partiers, sight-seers, etc.

Material collected or observed tested in 1941 by Robert F. Heizer; [REDACTED] stored at University of Oregon include (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Recommendations for future work test for undisturbed sediments

Owner and address (?)-city of Redmond (?) 814 N. Main Altitude toward excavation unknown

Point of use spelunking, partying, and general activities that disturb the integrity of the site and sediments

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Scale

(when square represents a section 1' x 1' or .402 m x .402 m)

Recorded by R. Lee Lyman

Date 6 September 1983

Oregon Archaeological Survey
University of Oregon, Museum of Natural History

Redmond Caves

Site No

County Deschutes

Cultural Area

Type of Site

Property Location

Site Location

UTM

Site Description

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Area of occupation

Depth and character of fill aeolian sandy loam; unknown depth, but potentially 3-4 m

Vegetation cover juniper, sagebrush, cheat grass outside of caves

Present condition disturbed by relic collectors, partiers, sight-seers, etc.

Material collected or observed tested in 1941 by Robert P. Heizer; stored at University of Oregon include

Recommendations for future work test for undisturbed sediments

Owner and address (2) city of Redmond (7) BLM private Attitude toward excavation unknown

Present use spelunking, partying, and general activities that disturb the integrity of the site and sediments

**N
(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)**

B. _____

Recorded by R. Lee Lyman

Searched

Date 6 September 1983

Central Oregon Heritage Group

CULTURAL RESOURCE SITE RECORD

ADMINISTRATIVE DATA

SITE NUMBER: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
 OTHER TEMP. NO(S): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
 PROJECT NUMBER:
 OWNER: BLM
 COUNTY: Deschutes
 SITE NAME: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SMITHSONIAN NUMBER:

MANAGEMENT LOCATION: Prineville
 STATE: Oregon

LOCATIONAL DATA

LEGAL DESCRIPTION: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

UTM: Zone: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) Easting: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) Northing: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
 GPS (corrected, uncorrected, none, unknown): Yes GPS DATUM:
 USGS QUAD(S) NAME: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) SERIES: 7.5 DATE: 1962

MAP PROJECTION DATUM: NAD27

Describe access to site from permanent feature and how to find primary datum:

On the south side of Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
 This is (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the Redmond Caves parcel.

ENVIRONMENTAL DATA

BASIN: Deschutes River Basin SUB-BASIN: Deschutes PROVINCE: High Lava Plains

ELEVATION: 3070 Feet SLOPE: 0-5 % ASPECT: North

DEPOSITIONAL ENVIRONMENT ON SITE: volcanic

SURFACE SEDIMENT TEXTURE ON SITE: (Check as many as needed.)

sand	silt	clay	gravel	bedrock	cinders	other
X	X		X			

SITE SETTING

Vegetation On Site: juniper, sagebrush, rabbitbrush

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

VEGETATION

On Site: Vegetation includes sagebrush, scattered juniper, and rabbitbrush.

Surrounding Site: Indian rice grass and Great Basin wild rye.

WATER SOURCE

Water Sources (multiple entries possible)

Name	Water Type	Water Status	Distance from Site in Meters
Deschutes River	River		(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE NUMBER:

SMITHSONIAN NUMBER:

Other environmental features/observations (relevant to site location/formation):

[REDACTED] is located on a [REDACTED] BLM managed parcel near Redmond [REDACTED]. Vegetation at the site includes low sagebrush and rabbitbrush shrubs and scattered junipers. Mature juniper trees are present along the perimeter of the site, to the south and the west.

[REDACTED] grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the vicinity. The [REDACTED] Contains Redmond Caves [REDACTED], a series of [REDACTED]. While low basalt rock outcrops are common in the vicinity of the site, the general topography is relatively flat (0-5% slope).

RESOURCE DATA

SITE TYPE(S): **(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)**

SITE DESCRIPTION: **(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)**

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



SITE AREA: 392 Sq. Meters or approx. 0.01 Acres

(Formula for the area of an ellipse is L x W x 3.14/4; to compute acres from square meters divide square meters by 4047.)

CULTURAL DEPTH: (Y/N/U) Yes.

TYPE OF EVIDENCE FOR CULTURAL DEPTH: testing excavation

CULTURAL DEPTH: 0-50cm

CULTURAL PERIOD(S): Middle to Late Holocene

METHOD FOR CULTURAL PERIOD DETERMINATION: point types

DATE RANGE FOR SITE: Beginning: Middle Holocene Ending: Late Holocene

METHOD FOR SITE DATE RANGE DETERMINATION: point types

SITE CONDITION

CONDITION: Fair

IMPACT AGENT: Erosion, bioturbation

DESCRIPTION OF DAMAGE: deposits are relatively shallow; although material was collected as low as 50 cm below the surface, the majority of the [REDACTED] materials are concentrated in the top 30cm of soil. It is likely that [REDACTED] are being exposed to the surface as deflation and wind erosion of sandy sediments occur. Bioturbation (both animal and human caused) may also be contributing to the impact of the site.

RESEARCH/SITE TESTING (Y/N):

SITE HAS BEEN TESTED: yes DATA RECOVERY: no C-14 DATED: no

SURFACE AREA FORMALLY EXCAVATED: 5.25 M²

VOLUME OF EXCAVATED DEPOSITS: 1.83 M³

OBSIDIAN SOURCING/HYDRATION: yes

SITE NUMBER:

SMITHSONIAN NUMBER:

COMMENTS:

Discovery and reporting of the site is being conducted by the University of Oregon State Museum of Anthropology in association with the Redmond Caves Archaeological Project. The project involves archaeological investigations of a [REDACTED] BLM managed parcel in Redmond, Oregon.

INTERPRETATION OF SITE FUNCTION:

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

PRESENT USE AND EXPECTED IMPACTS: The site is [REDACTED] of the City of Redmond. The [REDACTED] parcel containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on the rock outcroppings and walls within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. The BLM and the City of Redmond are planning to develop the [REDACTED] parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. The work is being conducted with University of Oregon students in Bend during Fall and Spring terms; the project is expected to take a total of four to five years. Interim reports are generated after each term and a complete synthesized report will be published at the culmination of the project.

MANAGEMENT DATA

NATIONAL REGISTER STATUS (listed, eligible, insufficient data, non-eligible):

(Provide justification, include discussion of integrity, context, and National Register criteria.)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) It contains [REDACTED] associated with the Middle to Late Holocene. It is also located in close proximity to the Redmond Caves, known to contain archaeological resources.

MANAGEMENT POTENTIAL (Y/N):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MANAGEMENT COMMENTS: . The BLM and the City of Redmond are planning to develop the [REDACTED] parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. Recommendations on how to reduce any possible detrimental impacts to the site will be included in the final report at the culmination of the Redmond Caves Archaeological Project.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MATERIALS COLLECTED (Y/N): Yes

DATE(S) COLLECTED:

9/28/02

4/12/03

4/19/03

PRESENT LOCATION OF COLLECTION: State Museum of Anthropology

DESCRIPTION AND CATALOG NUMBERS OF COLLECTED MATERIALS (diagnostic only):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE NUMBER:

SMITHSONIAN NUMBER:

ASSOCIATED REPORTS (PAST PROJECTS):

Redmond Caves Archaeological Project-Interim Report Fall 2002: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

Redmond Caves Archaeological Project-Interim Report Spring 2003: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

NAME OF RECORDER(S): Margaret M. Helzer

FIELD VISIT DATE: Sept. 28 2002

NAME OF SITE RECORD AUTHOR(S): Margaret M. Helzer

TITLE: Research Archaeologist

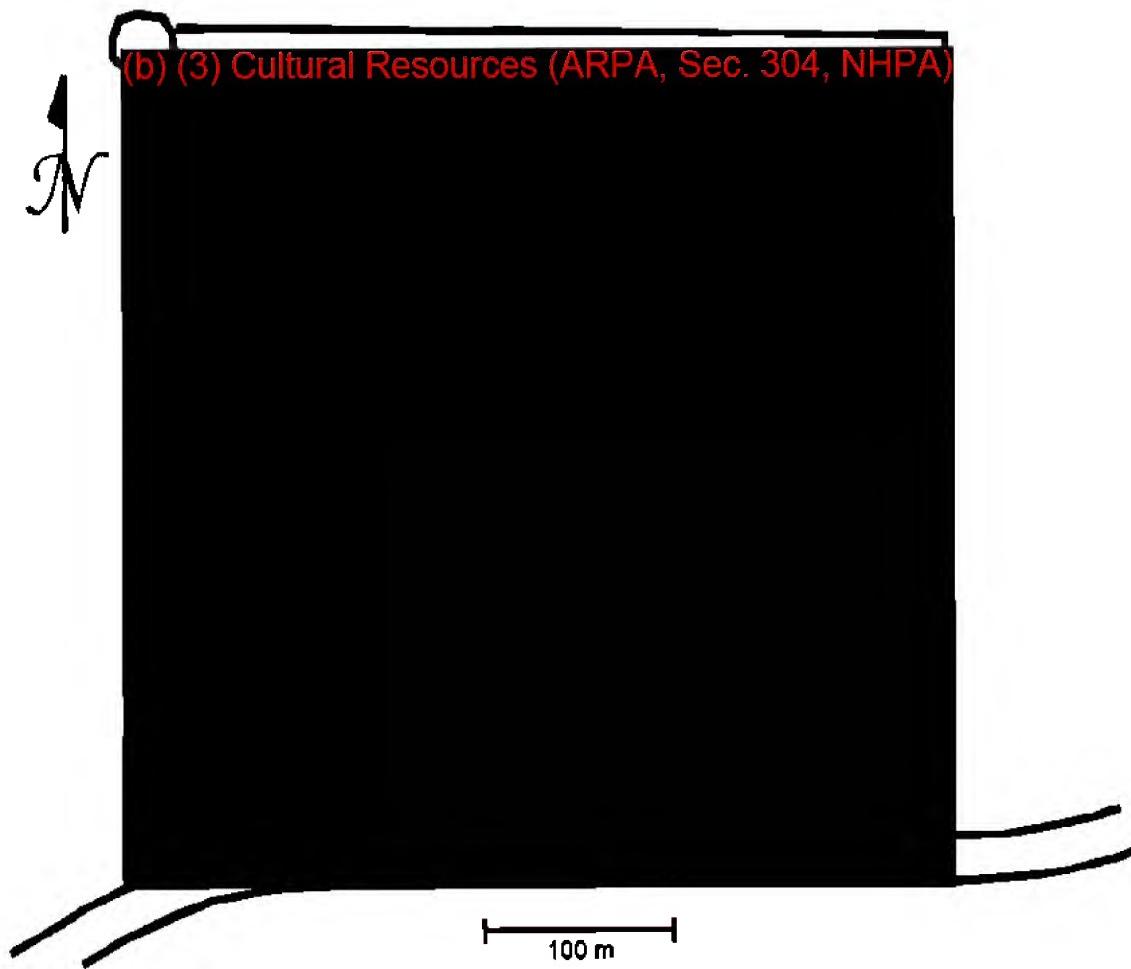
NAME OF AGENCY: University of Oregon Field Studies Class, Fall Term 2002

SITE RECORD COMPLETION DATE: 6/15/03



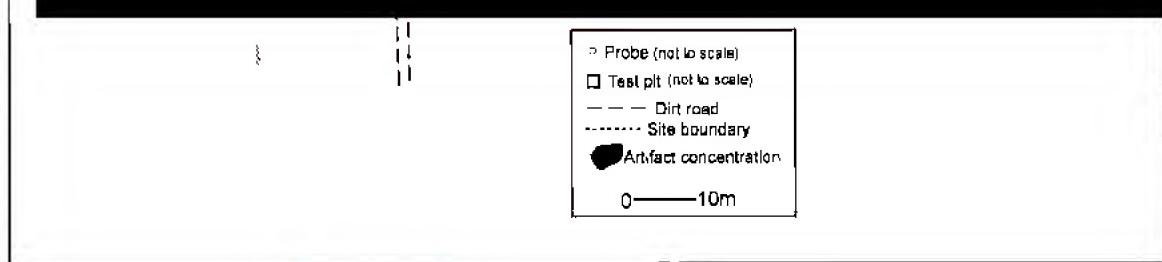
(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Location of Redmond Caves Project Area.



Sketch map of Redmond Caves parcel, sites not to scale.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Sketch map of [REDACTED] showing location of excavation units and site boundary. Excavation units not to scale.

Table1. Site

Unit	Level	Depth
Probe 1	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm
Probe 2	1	0-10 cm
	2	10-20cm
	3	20-30cm
Probe 3	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm
	5	40-50cm
Probe 4	1	0-10 cm
	2	10-20cm
	3	20-30cm
Probe 5	1	0-10 cm
	2	10-20cm
	3	20-30cm
Probe 6	1	0-10 cm
	2	10-20cm
	3	20-30cm
Probe 7	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm
	5	40-50cm
	6	50-60cm
Probe 8	1	0-10 cm
	2	10-20cm
	3	20-30cm
Probe 9	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)		
Probe 10	1	0-10 cm
	2	10-20cm
	3	20-30cm
Probe 11	1	0-10 cm
	2	10-20cm
	3	20-30cm
Probe 12	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm
	5	40-50cm
Probe 13	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm
Test Pit 1	1	0-10cm
Test Pit 2	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm
	5	40-50cm

Administrative Data

Smithsonian Number:

Alternate ID Numbers:

National Register Status:

Site Name:

District: Prineville

County: Deschutes

Agency: Bureau of Land Management

Firm:

Cultural Period(s) (choose one):

Unknown

Paleo (10,500 BP or earlier)

Archaic (Specific period not established)

Early Archaic (10,500 BP - 7,000 BP)

Middle Archaic (7,000 BP - 2,000 BP)

Late Archaic (2,000 BP - Contact)

Contact Period

Historic

19th Cent.

Early 20th Century (1900-1928)

Depression/WWII (1929-1950)

Recent (post 1950)

Multicomponent (Historic/Prehistoric)

Multicomponent (Prehistoric)

Multicomponent (Historic)

Prehistoric (Undetermined)

Attachments:

Figure 1: Topographic map showing project area

Figure 2: Sketch map showing location of site in relation to Redmond Caves and other associated sites and isolates

Figure 3: Photograph of

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Figure 4: Photograph of

Figure 5: Photograph of

Locational Data

Legal Description (nw ne sw se): [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Township: [REDACTED]

N/S:

Range: [REDACTED] (b) (3) Cultural

E/W:

Section: [REDACTED] (b) (3) CR

1/4: [REDACTED] (b) (3) Cultural

1/4: [REDACTED]

1/4: [REDACTED]

DLC:

UTM Zone: [REDACTED] (b) (3) Cultural

Eastling: [REDACTED] (b) (3) Cultural Resources

Northing: [REDACTED] (b) (3) Cultural Resources

USGS Quad Series: 7.5

Quad Name: [REDACTED] (b) (3) Cultural Notes

Quad Date: 1962

[REDACTED] (b) (3) Cultural Resources (ARPA)

GPS? (y/n): yes

UTM Datum: NAD27

Describe access to site:

On the south side of Redmond. [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

[REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) corner of the Redmond Caves parcel.

Environmental Data

Province: High Lava Plains

Drainage: Deschutes

Basin: Deschutes River Basin

Elevation (feet): 3070'

Subbasin: Deschutes

Aspect: north

Depositional Environment

Alluvial

Lacustrine

Coastal

Residual

Colluvial

Rockshelter

Eolian

Spring

Erosional

Other

Glacial

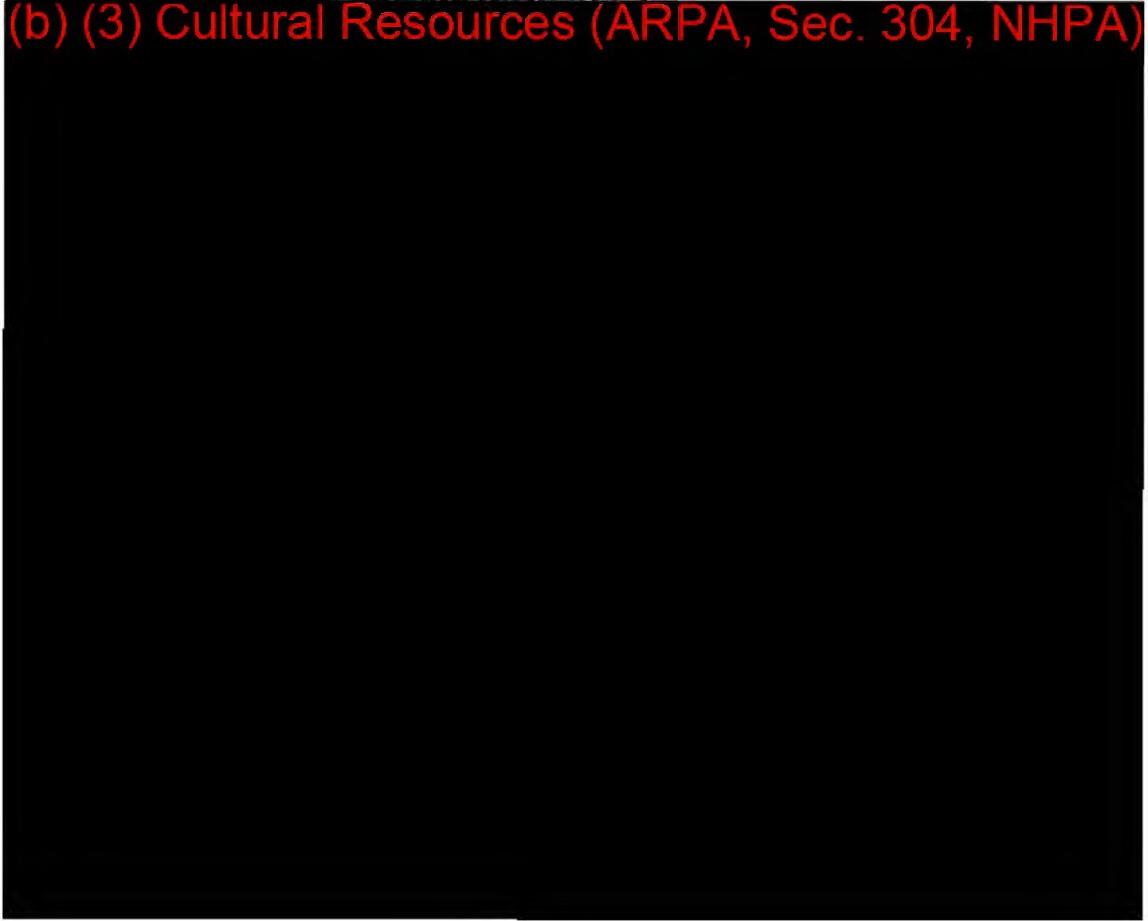
Soil Description:

Volcanic silt and sand, basalt, caves (lava tubes) in near vicinity

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation (circle items):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation Description:

On-site vegetation includes sagebrush, scattered juniper, and rabbitbrush. Indian rice grass and Great Basin wild rye in the site vicinity.

WATER SOURCES

Name Type
Deschutes River

Status

Class

FROM DATUM

Distance Bearing

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Site Setting (Discuss environmental setting of site relevant to site location, including on-site vegetation, topography, dated landforms and formation processes):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) is located on a (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) BLM managed parcel near Redmond (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). Vegetation at the site includes low sagebrush and rabbitbrush shrubs and scattered junipers. Mature juniper trees are present along the perimeter of the site, to the south and the west. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the vicinity. The (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) parcel contains Redmond Caves (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) a series of (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) While low basalt rock outcrops are common in the vicinity of the site, the general topography is relatively flat (0-5% slope).

Physical Data

Site Length (feet meters): 25 meters

Site Width (feet meters) : 23 meters

Depth of Cultural Deposits (centimeters): 50 cm

Site Area (acres, square feet or square meters): 575 meters

Date(s) of Use (as specific as possible)

Beginning Date: Ending Date:

How Date(s)

Determined:

Site Visit Information:

Visit Date: Site Condition: fair
9/28/2002

Impact Agent(s):
erosion, possible
artifact collectors

(b) (5) Cultural Resources (ARPA, Sec. 304, NHPA)
[REDACTED] materials collected?
yes

Site Conditions (circle):

Unknown - No data or condition unknown

Excellent - Site damage = or < 5% damage.

Good - Site damage > 5% and < 40%.

Fair - Site damage = or > 40% and < 60%.

Poor - Site damage > 60% and < 95%.

Destroyed - Site damage = or > 95%.

Impact Agents (circle):

Agriculture

None

Collected

Animal/burrowing

Other

Trail

Animal/trampling

Partial/Full excavation

Unknown

Bioturbation

Railroad

Utilities

Campground

Recreation motorized

Vandalism - Altered

Cryoturbation

Recreation: non-

Vandalism - Destroyed

Decay

motorized

Vandalism -

Erosion

Road

Dismantled/Removed/Di

Fire

Theft - Digging and

splaced

Gravity

Removal

Water/Inundated

Logging

Theft - Surface

Weathering

The Following Were Observed:(circle and include details [REDACTED] in the site description below).

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Site Description (Include discussion of site condition, found artifacts and other relevant info:

Site Function:

The site represents a (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). In addition,

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) (Figure 3), (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) (Figure 4), (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) (Figure 5) were collected during survey. Testing at the site included the excavation of six 50x50 cm probes. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) was concentrated in the top 30 cm, although one probe produced (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) to a depth of 50 cm. No additional (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) were uncovered in the probes. No features were identified, although a small amount of (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) and one (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) was recovered in one probe.

Site function is interpreted as (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) site.

Interpretation of each checked Site Function above:

Present Use and Expected Impacts:

The site is located (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the City of Redmond. The (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) parcel containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on the rock outcroppings and walls within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. Overturned rocks at the site may be the result of artifact collectors.

Site Type(s):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Features:

Administration Bld	Hydraulic mine	Ranger Station
Arrastra	Irrigation	Retort
Bridge	Lens	Road
Cabin	Living Floor	Rock Alignment
Cache Pit	Lodge/Resort	Rock Art
Cadastral Marker	Logging Camp	Rock Cairns
Dam/Intake	Lookout	Root Gathering
Dendroglyphs	Midden	Salt Log
Ditch	Mine/Adit	Sawmill
Driveway	Mining mil	Settling pond
Fence/Corral	Non-residential wood structure	Sign
Flume	Other	Stage Stop
Grazing camp	Other Mining equipment	Stock Driveway
Guard Station	Other Residential structure	Stone Fish Trap
Hard Rock Mine	Oven	Telephone Line
Headgates	Peeled Trees	Traditional Cult
Hearth	Picnic/Community	Trail
Historic Structure	Kitchen/ Other Dev Rec	Trailings
Remain	Facility	Trap set/line
Historic wood - purpose unknown	Pipeline	Trash Dump
Holding pond	Post Mold	Trough
Housepit	Raceways	Wall
Hunters shelter	Railroad Grade/Trestle	Weir
Hydraulic face		

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Report Information

Report Title: Rodmond Caves Archeological Project, Fall 2002

Author(s) name: Dr. Margaret M. Helzer

Primary Report (y/n): Preliminary report for Redmond Caves Archaeological Project for Fall 2002

Publication Year: 2003

Recorder Name (first, middle initial, last)

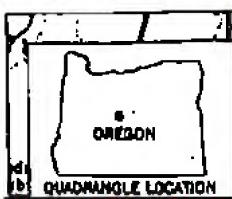
Margaret M. Helzer
Research Archaeologist
Oregon State Museum of
Anthropology

University of Oregon
Field Studies Class, Fall Term
2002

Date Site Recorded:

9/28/2002

Entered or Modified



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Figure 1. Location of Redmond Caves Project Area.

Redmond Caves **BLM Parcel**
Showing location of caves. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

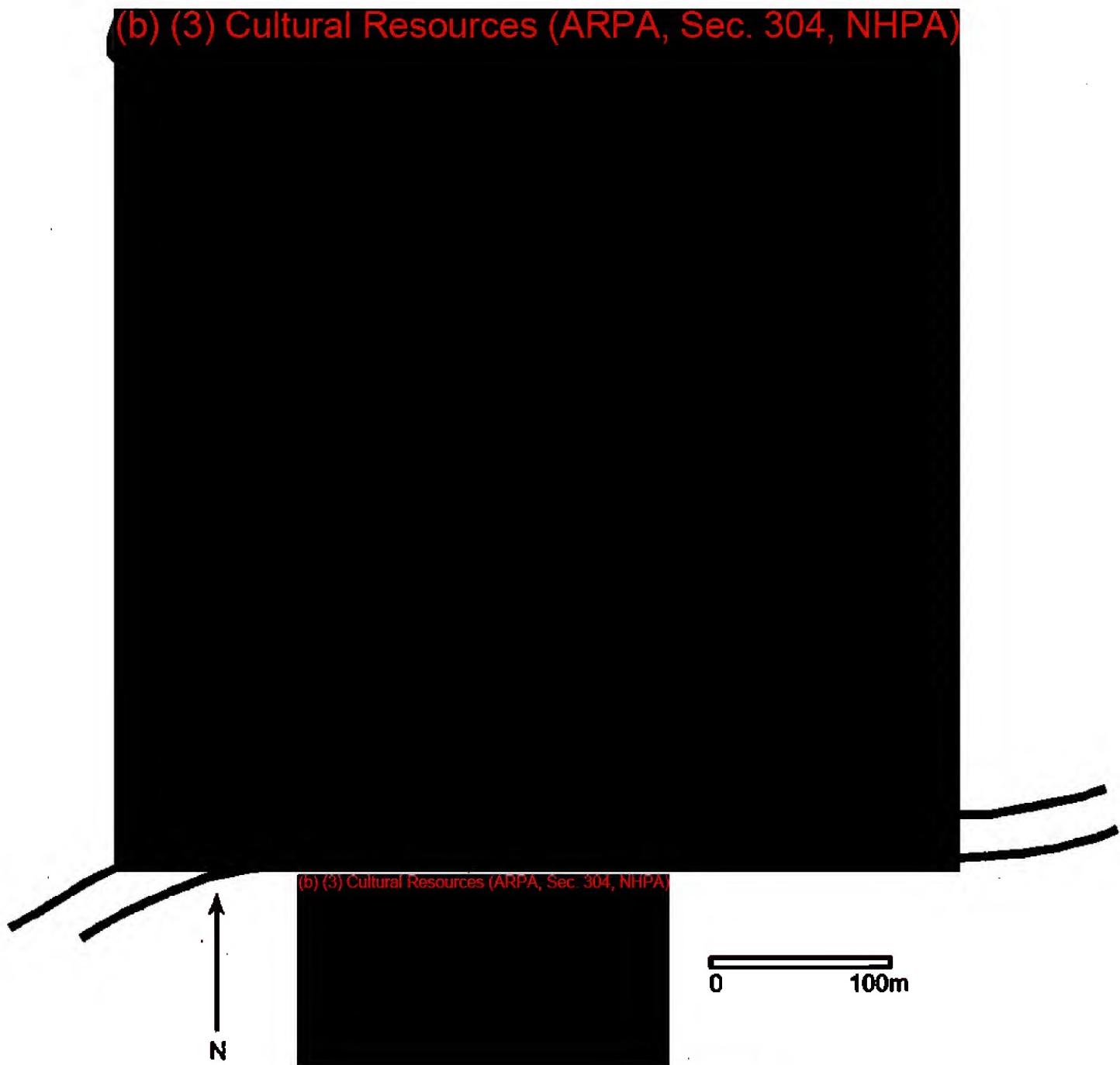


Figure 2. Location of Site

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

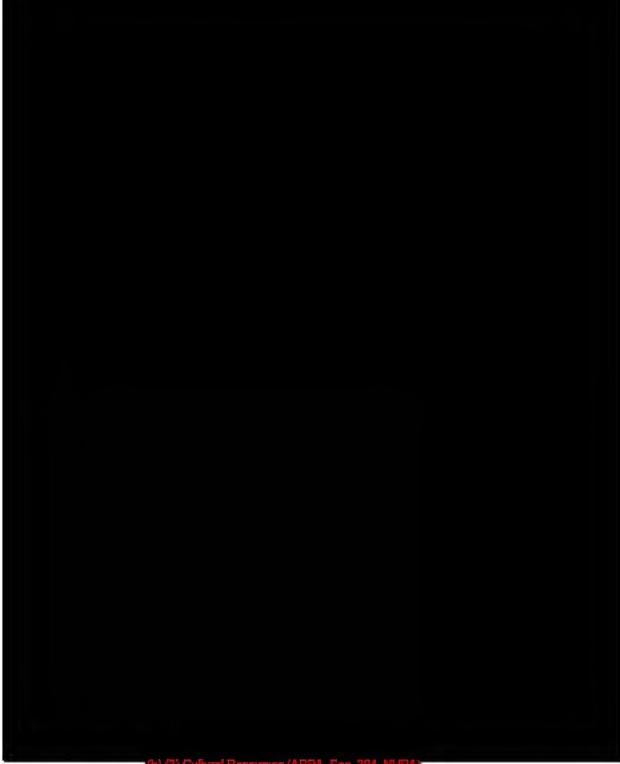


Figure 3.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

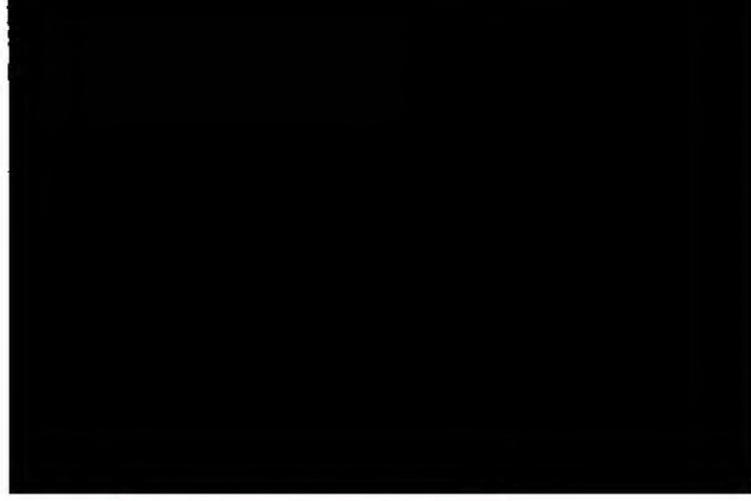


Figure 4.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Figure 5.

(b) (3) Cultural Resources (ARPA, Sec. 304)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Central Oregon Heritage Group

CULTURAL RESOURCE SITE RECORD

ADMINISTRATIVE DATA

SITE NUMBER: (b) (3) Cultural Resources (ARPA)

SMITHSONIAN NUMBER:

OTHER TEMP. NO(S): (b) (3) Cultural R

PROJECT NUMBER:

OWNER: BLM

MANAGEMENT LOCATION: Prineville

COUNTY: Deschutes

STATE: Oregon

SITE NAME: (b) (3) Cultural Resourc

LOCATIONAL DATA

LEGAL DESCRIPTION: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

UTM: Zone: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

GPS: Yes

GPS DATUM:

USGS QUAD(S) NAME: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SERIES: 7.5

DATE: 1962

MAP PROJECTION DATUM: NAD27

Describe access to site from permanent feature and how to find primary datum:

On the south side of Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This is the (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the Redmond Caves parcel.

ENVIRONMENTAL DATA

BASIN: Deschutes River Basin

SUB-BASIN: Deschutes

PROVINCE: High Lava Plains

ELEVATION: 3070 Feet

SLOPE: 0-5 %

ASPECT: North

DEPOSITIONAL ENVIRONMENT ON SITE: volcanic

SURFACE SEDIMENT TEXTURE ON SITE: (Check as many as needed.)

sand	silt	clay	gravel	bedrock	cinders	other
X	X		X			

SITE SETTING

Vegetation On Site: juniper, sagebrush, rabbitbrush

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) VEGETATION

On Site: Vegetation includes sagebrush, scattered juniper, and rabbitbrush.

Surrounding Site: Indian rice grass, Great Basin wild rye, lomatium.

WATER SOURCE

Water Sources (multiple entries possible)

Name	Water Type	Water Status	Distance from Site in Meters
Deschutes River	River		(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE NUMBER:

SMITHSONIAN NUMBER:

Other environmental features/observations (relevant to site location/formation):

(b) (3) Cultural Res. [REDACTED] is located on a [REDACTED] BLM managed parcel near Redmond. (b) (3) Cultural Res. [REDACTED] Vegetation at the site includes low sagebrush and rabbitbrush shrubs and scattered junipers. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) [REDACTED] grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the vicinity. A low basalt outcrop and mature juniper tree are located along the southwest perimeter of the site. The [REDACTED] parcel contains Redmond Caves (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). The general topography at the site is relatively flat (0-5% slope).

RESOURCE DATA

SITE TYPE(S): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE DESCRIPTION: The site is represented by (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Res. There were no obvious signs of destruction to the site.

SITE AREA: 60 Sq. Meters approx. 0.19 Acres

(Formula for the area of an ellipse is L x W x 3.14/4; to compute acres from square meters divide square meters by 4047.)

CULTURAL DEPTH: (Y/N/U) Unknown.

CULTURAL PERIOD(S): unkown

METHOD FOR CULTURAL PERIOD DETERMINATION: no (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) recovered

:

SITE CONDITION

CONDITION: good

IMPACT AGENT: Erosion, bioturbation assumed (no subsurface analysis as yet completed)

RESEARCH/SITE TESTING (Y/N):

SITE HAS BEEN TESTED: no DATA RECOVERY: no C-14 DATED: no

SURFACE AREA FORMALLY EXCAVATED: NA

VOLUME OF EXCAVATED DEPOSITS: NA

OBSIDIAN SOURCING/HYDRATION: no

COMMENTS:

Discovery and reporting of the site is being conducted by the University of Oregon State Museum of Anthropology in association with the Redmond Caves Archaeological Project. The project involves archaeological investigations of a (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) BLM managed parcel in Redmond, Oregon.

INTERPRETATION OF SITE FUNCTION:

PRESENT USE AND EXPECTED IMPACTS:

The site is located (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the City of Redmond. The (b) (3) Cultural Res. parcel containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on the rock outcroppings and walls within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. The BLM and the City of Redmond are planning to develop the (b) (3) Cultural Res. parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. The work is being conducted with University of Oregon students in Bend during Fall and Spring terms; the project is expected to take a total of four to five years. Interim reports are generated after each term and a complete synthesized report will be published at the culmination of the project.

SITE NUMBER:

SMITHSONIAN NUMBER:

MANAGEMENT DATA

NATIONAL REGISTER STATUS (listed, eligible, insufficient data, non-eligible):
(Provide justification, include discussion of integrity, context, and National Register criteria.)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MANAGEMENT POTENTIAL (Y/N):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MANAGEMENT COMMENTS:

The BLM and the City of Redmond are planning to develop the [REDACTED] parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. Recommendations on how to reduce any possible detrimental impacts to the site will be included in the final report at the culmination of the Redmond Caves Archaeological Project.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MATERIALS COLLECTED (Y/N): No

ASSOCIATED REPORTS (PAST PROJECTS):

Redmond Caves Archaeological Project-Interim Report Fall 2002: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

Redmond Caves Archaeological Project-Interim Report Spring 2003: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

NAME OF RECORDER(S): Margaret M. Helzer

FIELD VISIT DATE: Sept. 28, 2002

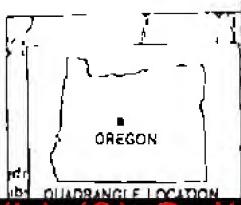
NAME OF SITE RECORD AUTHOR(S): Margaret M. Helzer

TITLE: Research Archaeologist

NAME OF AGENCY: University of Oregon Field Studies Class, Fall Term 2002

SITE RECORD COMPLETION DATE: 6/15/03

OREGON STATE
MUSEUM OF
ANTHROPOLOGY

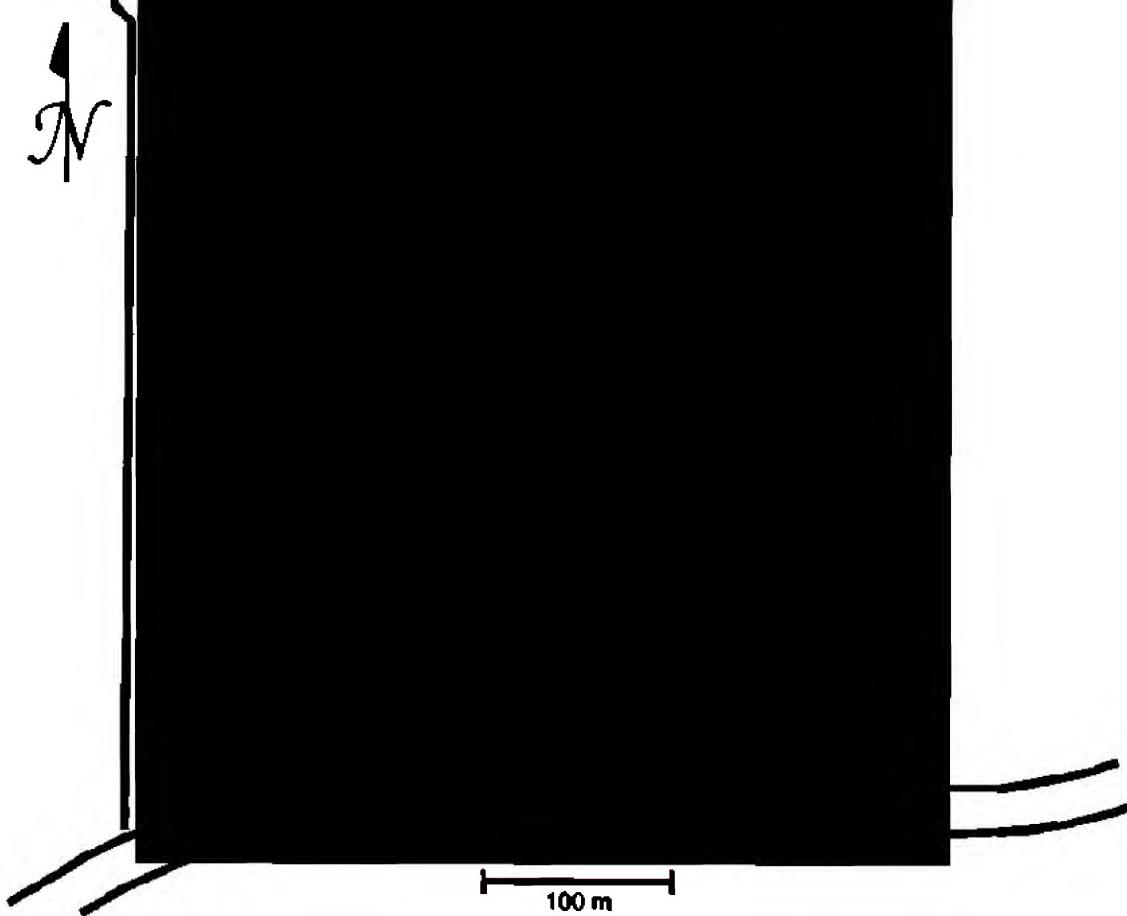


(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Location of Redmond Caves Project Area.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Sketch map of Redmond Caves parcel, sites not to scale.

Administrative Data

Smithsonian Number:

(B) (3) Cultural Resources (ARPA, Sec. 304)

Alternate ID Numbers:

(B) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

National Register Status:

(B) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Site Name:

District: Prineville

County: Deschutes

Agency: Bureau of Land Management

Firm: Oregon State Museum of Anthropology

Cultural Period(s) (choose one):

Unknown

19th Cent.

Paleo (10,500 BP or earlier)

Early 20th Century (1900-1928)

Archaic (Specific period not established)

Depression/WWII (1929-1950)

Early Archaic (10,500 BP - 7,000 BP)

Recent (post 1950)

Middle Archaic (7,000 BP - 2,000 BP)

Multicomponent (Historic/Prehistoric)

Late Archaic (2,000 BP - Contact)

Multicomponent (Prehistoric)

Contact Period

Multicomponent (Historic)

Historic

Prehistoric (Undetermined)

Attachments:

Figure 1: Topographic map showing project area

Figure 2: Sketch map showing location of site in relation to Redmond Caves and other associated sites and isolates

Locational Data

Legal Description (nw ne sw se): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Township: (b) (3) Cultural Resources

N/S:

Range: (b) (3) Cultural Resources

E/W:

Section: (b) (3) Cultural Resources

1/4: (b) (3) Cultural Resources

1/4: (b) (3) Cultural Resources

1/4: (b) (3) Cultural Resources

DLC:

UTM Zone: (b) (3) Cultural Resources

Eastings: (b) (3) Cultural Resources

Northing: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

USGS Quad Series: 7.5

Quad Name: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Quad Date: 1962

GPS? (y/n): yes

UTM Datum: North American

Describe access to site:

On the south side of Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This is (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the Redmond

Caves parcel.

Environmental Data

Province: High Lava Plains
Drainage: Deschutes
Basin: Deschutes River Basin
Elevation (feet): 3070'
Subbasin: Deschutes
Aspect: north

Depositional Environment

Alluvial	Lacustrine
Coastal	Residual
Colluvial	Rockshelter
Eolian	Spring
Erosional	Other
Glacial	

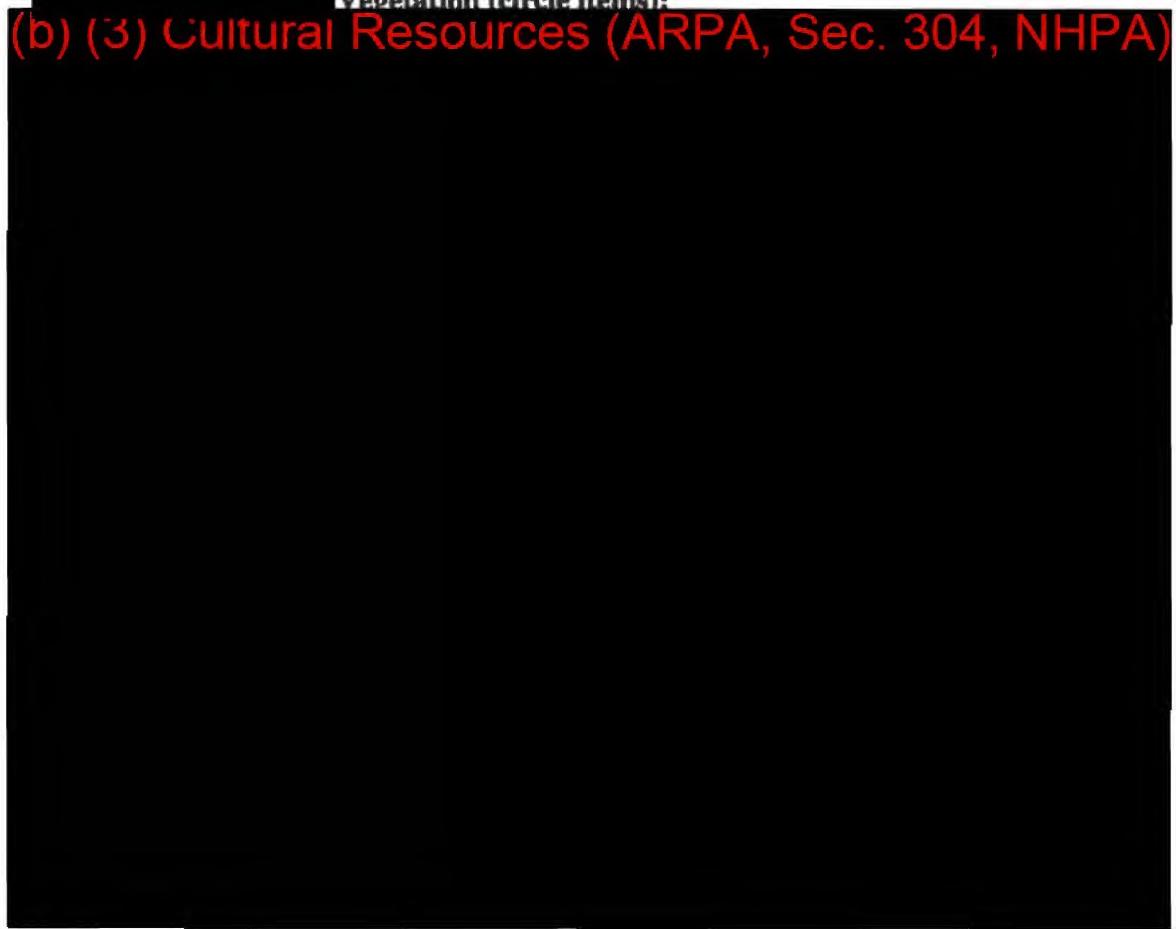
Soil Description:

Volcanic silt and sand; caves (lava tubes) in near vicinity

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation (circle items):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation Description:

On-site vegetation includes sagebrush, scattered juniper, and rabbitbrush. Indian rice grass and Great Basin wild rye in the site vicinity.

WATER SOURCES				FROM DATUM		
Name	Type	Status	Class	Distance	Bearing	
Deschutes River				(b) (3) Cultural Resources (ARPA, SEC 304, NHPA)		

Site Setting (Discuss environmental setting of site relevant to site location, including on-site vegetation, topography, dated landforms and formation processes):

(b) (5) Cultural Resources (b) (3) Cultural Resources (b) (5) Cultural Resources (b) (5) Cultural Resources (ARPA, Sec. 304, NHPA) is located on a [REDACTED] BLM managed parcel near Redmond [REDACTED] Vegetation at the site includes low sagebrush and rabbitbrush shrubs and scattered junipers. [REDACTED] (b) (5) Cultural Resources (b) (5) grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the vicinity. A low basalt outcrop and mature juniper tree are located along the southwest perimeter of the site. The [REDACTED] parcel contains Redmond Caves. (b) (5) Cultural Resources (ARPA, Sec. 304, NHPA) (b) (5) Cultural Resources (ARPA, Sec. 304, NHPA) The general topography at the site is relatively flat (0-5% slope).

Physical Data

Site Length (feet meters): 10 meters

Site Width (feet meters) : 6 meters

Depth of Cultural Deposits (centimeters): unknown

Site Area (acres, square feet or square meters): 60 meters

Date(s) of Use (as specific as possible)

Beginning Date: Ending Date:

How Date(s)

Determined:

Site Visit Information:

Visit Date: Site Condition: good
9/28/2002

Impact Agent(s):
erosion, possible
artifact collectors

Were artifacts & other materials collected?
no

Site Conditions (circle):

- Unknown - No data or condition unknown
- Excellent - Site damage = or < 5% damage.
- Good - Site damage > 5% and < 40%.
- Fair - Site damage = or > 40% and < 60%.
- Poor - Site damage > 60% and < 95%.
- Destroyed - Site damage = or > 95%.

Impact Agents (circle):

Agriculture	None	Collected
Animal/burrowing	Other	Trail
Animal/trampling	Partial/Full excavation	Unknown
Bioturbation	Railroad	Utilities
Campground	Recreation: motorized	Vandalism - Altered
Cryoturbation	Recreation: non-motorized	Vandalism - Destroyed
Decay	Road	Vandalism -
<input checked="" type="radio"/> Erosion	Theft - Digging and	Dismantled/Removed/Displaced
Fire	Removal	Water/Inundated
Gravity	Theft - Surface	Weathering
Logging		

The Following Were Observed:(circle and include details or other artifacts in the site description below).

Bone Tool	Shell	Wood Other
Shell Tool	Textiles	Debitage
Fire Cracked Rock	Glass	Ground Stone Tool
Ceramics	Brick	Cobble Tool
Metal Tool	Knapped Stone Tool	Human Skeletal Remain
Metal Other	Faunal Remains	Arrowhead
Wood Tool	Dart	Cans
Floral Remains	Bottles	Other

Site Description (Include discussion of site condition, found artifacts and other relevant info:

Interpretation of each checked Site Function above:

Site Function:

The site is represented by (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

There were no obvious signs of destruction to the site.

Site function:

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Present Use and Expected Impacts:

The site is located [REDACTED] of the City of Redmond. The [REDACTED] parcel containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on rock outcroppings outside and within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. There is evidence of digging by artifact collectors within the caves.

Site Type(s):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

[REDACTED]

Oregon State Historic Preservation Office | Cultural Resources Reporting Form- 7

Features:

Administration Bld	Hydraulic mine	Ranger Station
Arrastra	Irrigation	Retort
Bridge	Lens	Road
Cabin	Living Floor	Rock Alignment
Cache Pit	Lodge/Resort	Rock Art
Cadastral Marker	Logging Camp	Rock Cairns
Dam/Intake	Lookout	Root Gathering
Dendroglyphs	Midden	Salt Log
Ditch	Mine/Adit	Sawmill
Driveway	Mining mil	Settling pond
Fence/Corral	Non-residential wood structure	Sign
Flume	Other	Stage Stop
Grazing camp	Other Mining equipment	Stock Driveway
Guard Station	Other Residential structure	Stone Fish Trap
Hard Rock Mine	Oven	Telephone Line
Headgates	Peeled Trees	Traditional Cult
Hearth	Picnic/Community	Trail
Historic Structure	Kitchen/ Other Dev Rec Facility	Trailings
Remain	Pipeline	Trap set/line
Historic wood - purpose unknown	Post Mold	Trash Dump
Holding pond	Raceways	Trough
Housepit	Railroad Grade/Trestle	Wall
Hunters shelter		Weir
Hydraulic face		

Functions:

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Report Information

Primary Report (y/n): Publication Year:

Report Title: Redmond Caves Archeological Project, Fall 2002

Author(s) name: Margaret M. Helzer, Ph.D.

Primary Report (y/n): Preliminary report for Redmond Caves Archaeological Project for Fall 2002

Publication Year: 2003

Recorder Name (first, middle initial, last) Title

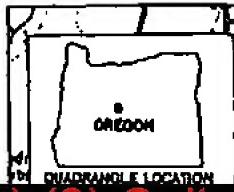
Margaret M. Helzer,
Research Archaeologist
University of Oregon,
State Museum of
Anthropology

Date Site Recorded:

9/28/2002

Entered or Modified

University of Oregon
Field Studies Class, Fall
Term 2002



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

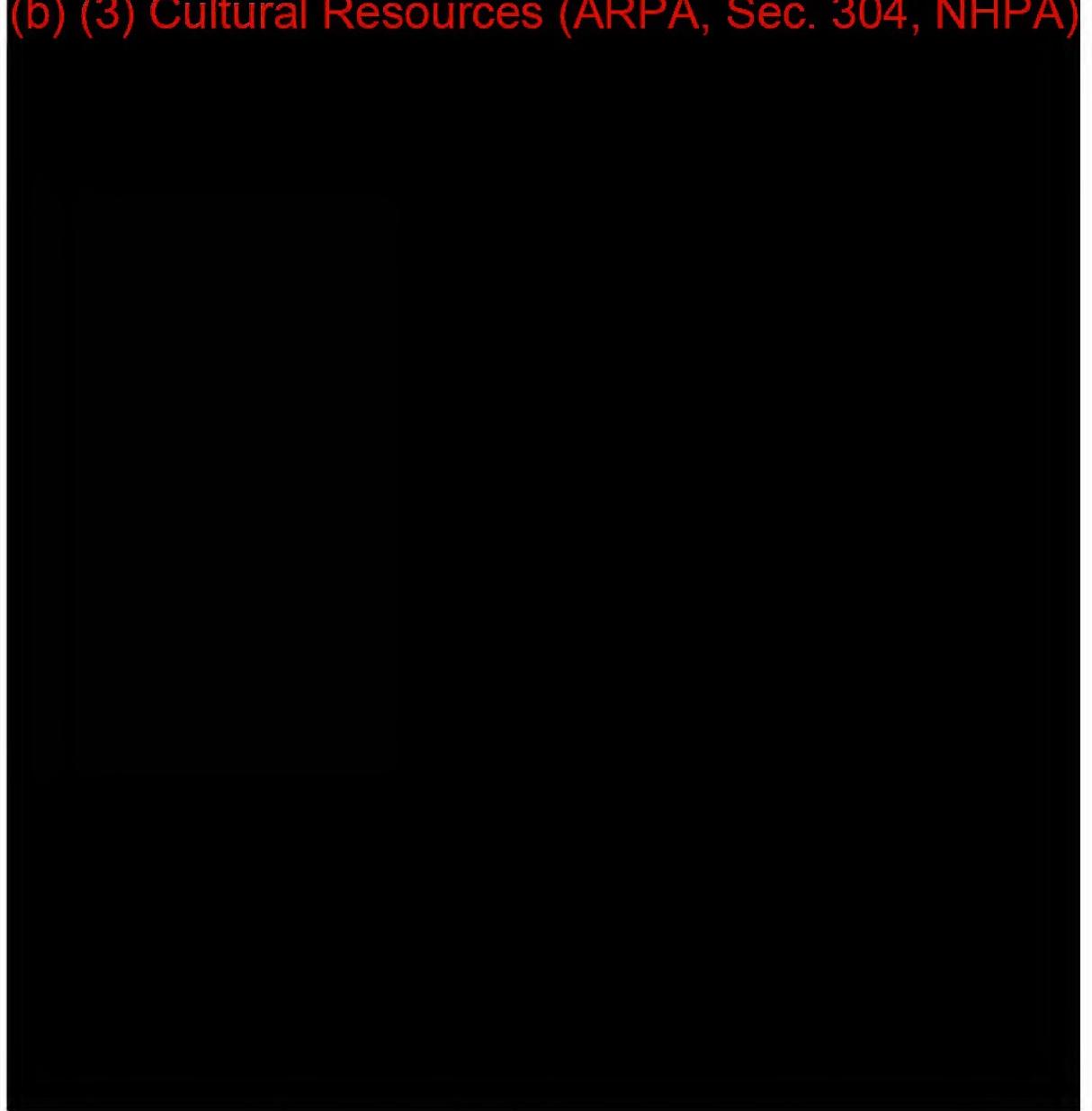


Figure 1. Location of Redmond Caves Project Area.

Redmond Caves [REDACTED] BLM Parcel
Showing location of (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

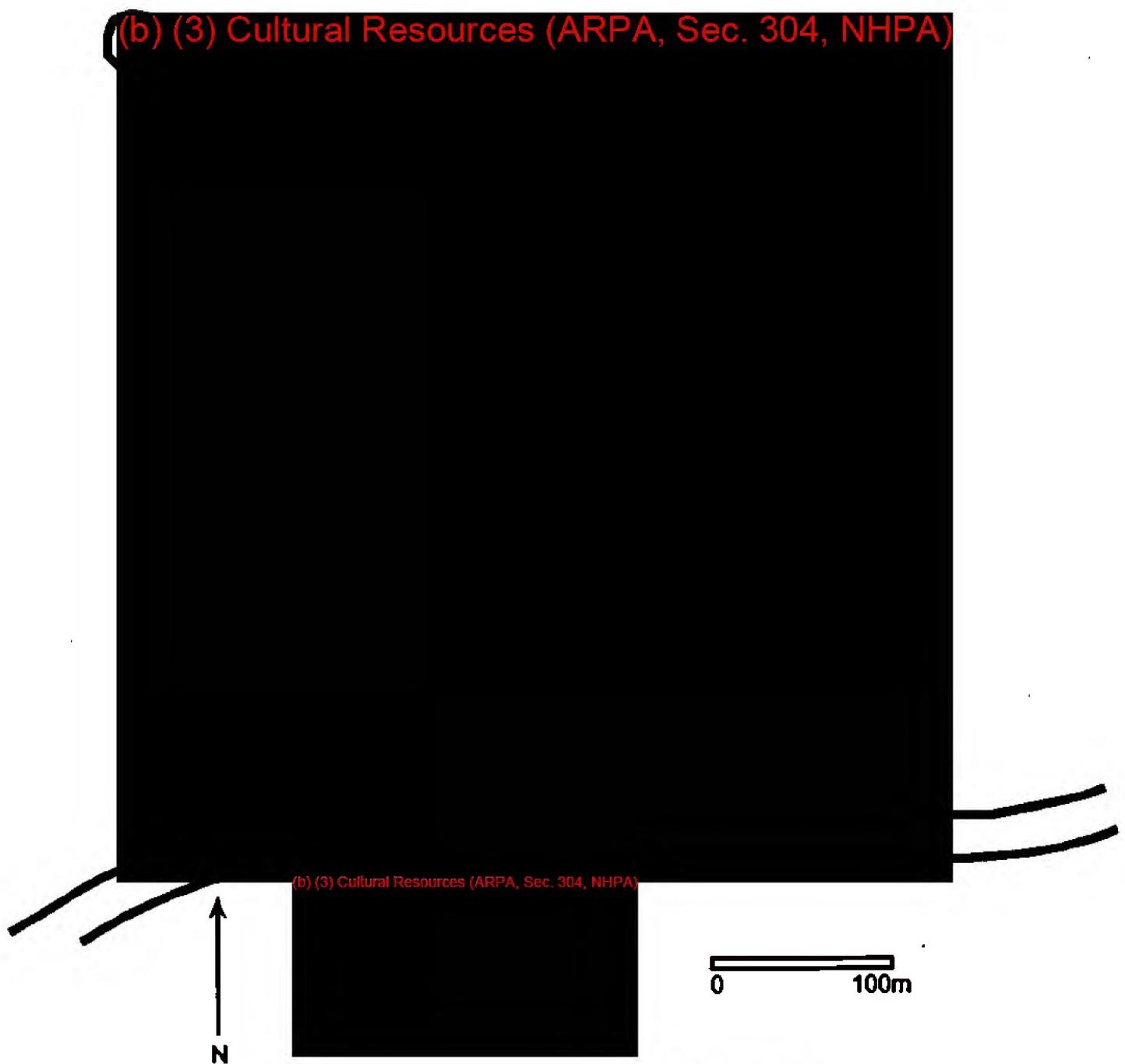


Figure 2. Location of Site

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Central Oregon Heritage Group

CULTURAL RESOURCE SITE RECORD

ADMINISTRATIVE DATA

SITE NUMBER: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SMITHSONIAN NUMBER:

OTHER TEMP. NO(S). (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

PROJECT NUMBER:

OWNER: BLM

MANAGEMENT LOCATION:

COUNTY: Deschutes

SITE NAME: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

STATE: Oregon

LOCATIONAL DATA

LEGAL DESCRIPTION: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

UTM: Zone: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

GPS (corrected, uncorrected, none, unknown): Yes

GPS DATUM:

USGS QUAD(S) NAME: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SERIES: 7.5

DATE: 1962

MAP PROJECTION DATUM: NAD27

Describe access to site from permanent feature and how to find primary datum:

On the south side of Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This is (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the Redmond Caves parcel.

ENVIRONMENTAL DATA

BASIN: Deschutes River Basin

SUB-BASIN: Deschutes

PROVINCE: High Lava Plains

ELEVATION: 3070 Feet

SLOPE: 0-5 %

ASPECT: North

DEPOSITIONAL ENVIRONMENT ON SITE: volcanic

SURFACE SEDIMENT TEXTURE ON SITE: (Check as many as needed.)

sand	silt	clay	gravel	bedrock	cinders	other
X	X		X			

SITE SETTING

Vegetation On Site: juniper, sagebrush, rabbitbrush

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) **VEGETATION**

On Site: Vegetation includes sagebrush, scattered juniper, and rabbitbrush.

Surrounding Site: Indian rice grass and Great Basin wild rye.

WATER SOURCE

Water Sources (multiple entries possible)

Name	Water Type	Water Status	Distance from Site in Meters
Deschutes River	River		(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Other environmental features/observations (relevant to site location/formation):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) is located on a (b) (3) BLM managed parcel near Redmond (b) (3) Vegetation at the site includes low sagebrush and rabbitbrush shrubs and scattered junipers (b) (3) grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the vicinity. The (b) (3) parcel contains Redmond Caves (b) (3) (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) The general topography at the site is relatively flat (0-5% slope).

RESOURCE DATA

SITE TYPE(S): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE DESCRIPTION: The site is represented by (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE AREA: 40 Sq. Meters approx. 0.01 Acres

(Formula for the area of an ellipse is L x W x 3.14/4; to compute acres from square meters divide square meters by 4047.)

CULTURAL DEPTH: (Y/N/U) Unknown.

TYPE OF EVIDENCE FOR CULTURAL DEPTH: no subsurface testing conducted

CULTURAL PERIOD(S): unknown

DATE RANGE FOR SITE: unknown

METHOD FOR SITE DATE RANGE DETERMINATION: no diagnostic (b) (3) observed

SITE CONDITION

CONDITION: Good

IMPACT AGENT: Erosion, bioturbation (assumed, but no subsurface investigation has taken place in this location)

DESCRIPTION OF DAMAGE:

RESEARCH/SITE TESTING (Y/N):

SITE HAS BEEN TESTED: no DATA RECOVERY: no C-14 DATED: no

SURFACE AREA FORMALLY EXCAVATED: NA

VOLUME OF EXCAVATED DEPOSITS: NA

OBSIDIAN SOURCING/HYDRATION: NA

COMMENTS:

Discovery and reporting of the site is being conducted by the University of Oregon State Museum of Anthropology in association with the Redmond Caves Archaeological Project. The project involves archaeological investigations of a (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) BLM managed parcel in Redmond, Oregon

INTERPRETATION OF SITE FUNCTION:

PRESENT USE AND EXPECTED IMPACTS:

The site is located (b) (3) of the City of Redmond. The (b) (3) parcel containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on the rock outcroppings and walls within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. The BLM and the City of Redmond are planning to develop (b) (3) acre parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. The work is being conducted with University of Oregon students in Bend during Fall and Spring terms; the

SITE NUMBER:

SMITHSONIAN NUMBER:

project is expected to take a total of four to five years. Interim reports are generated after each term and a complete synthesized report will be published at the culmination of the project.

MANAGEMENT DATA

NATIONAL REGISTER STATUS (listed, eligible, insufficient data, non-eligible):

(Provide justification, include discussion of integrity, context, and National Register criteria.)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MANAGEMENT POTENTIAL (Y/N):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MANAGEMENT COMMENTS:

The BLM and the City of Redmond are planning to develop the [REDACTED] parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. Recommendations on how to reduce any possible detrimental impacts to the site will be included in the final report at the culmination of the Redmond Caves Archaeological Project.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MATERIALS COLLECTED (Y/N): No

ASSOCIATED REPORTS (PAST PROJECTS):

Redmond Caves Archaeological Project-Interim Report Fall 2002: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

Redmond Caves Archaeological Project-Interim Report Spring 2003: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

NAME OF RECORDER(S): Margaret M. Helzer

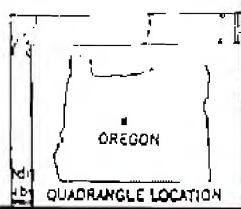
FIELD VISIT DATE: Sept. 28, 2002

NAME OF SITE RECORD AUTHOR(S): Margaret M. Helzer

TITLE: Research Archaeologist

NAME OF AGENCY: University of Oregon Field Studies Class, Fall Term 2002

SITE RECORD COMPLETION DATE: 6/15/03

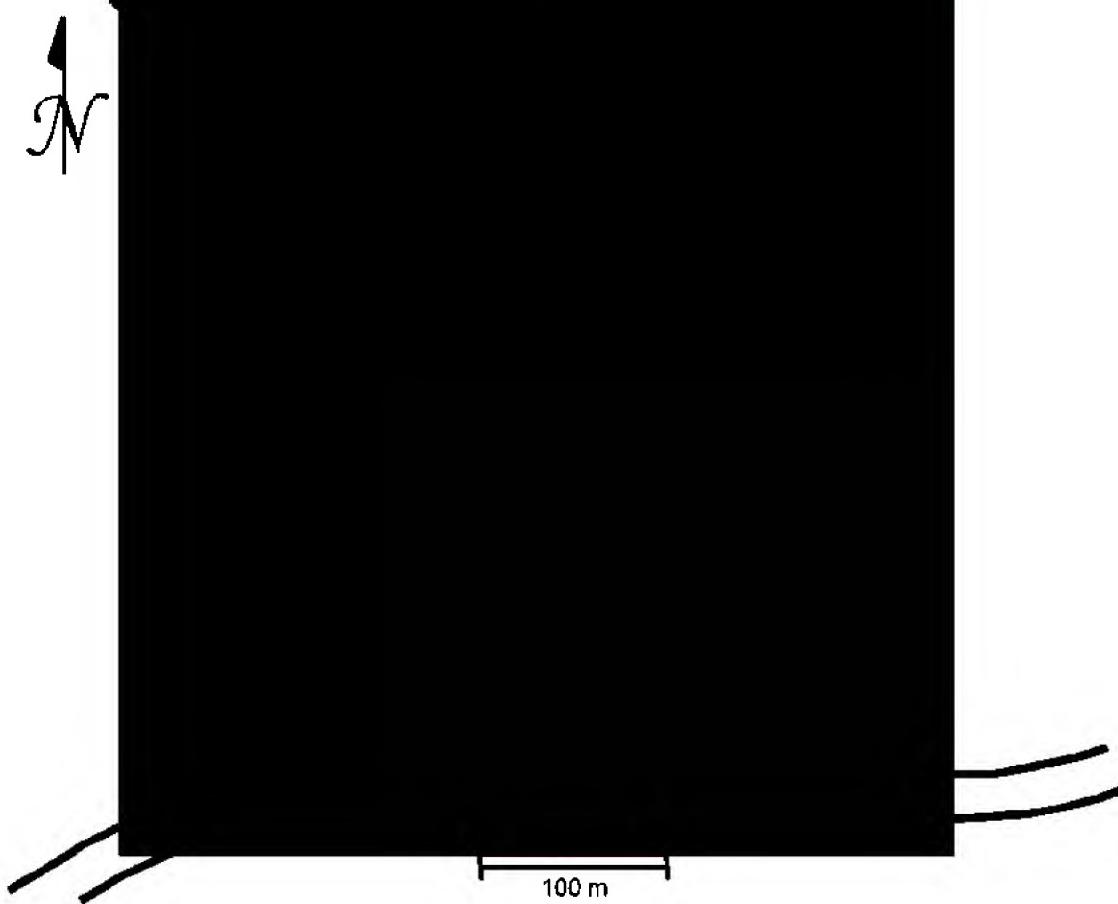


(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Location of Redmond Caves Project Area.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Sketch map of Redmond Caves parcel, sites not to scale.

Administrative Data

Smithsonian Number:

Alternate ID Numbers:

National Register Status:

Eligible

Listed

Not Eligible

Unevaluated

Site Name:

District: Prineville

County: Deschutes

Agency: Bureau of Land Management

Firm: Oregon State Museum of Anthropology

Cultural Period(s) (choose one):

Unknown

19th Cent.

Paleo (10,500 BP or earlier)

Early 20th Century (1900-1928)

Archaic (Specific period not established)

Depression/WWII (1929-1950)

Early Archaic (10,500 BP - 7,000 BP)

Recent (post 1950)

Middle Archaic (7,000 BP - 2,000 BP)

Multicomponent (Historic/Prehistoric)

Late Archaic (2,000 BP - Contact)

Multicomponent (Prehistoric)

Contact Period

Multicomponent (Historic)

Historic

Prehistoric (Undetermined)

Attachments:

Figure 1: Topographic map showing project area

Figure 2: Sketch map showing location of site in relation to Redmond Caves and other associated sites and isolates

Oregon State Historic Preservation Office | Cultural Resources Reporting Form- 2

Locational Data

Legal Description (nw ne sw se): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Township: (b) (3) Cultural

N/S:

Range: (b) (3) Cultural

E/W:

Section: (b) (3) Cultural

(b) (3) Cultural Resources (ARPA,

DLC:

UTM Zone: (b) (3) Cultural

Easting: (b) (3) Cultural Resources

Northing: (b) (3) Cultural Resources

USGS Quad Series: 7.5

Quad Name: (b) (3) Cultural Resources

Quad Date: 1962

GPS? (y/n): yes

UTM Datum: NAD27

Describe access to site:

On the south side of Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This is (b) (3) Cultural Resources (ARPA, Sec.

Caves parcel.

Environmental Data

Province: High Lava Plains

Drainage: Deschutes

Basin: Deschutes River Basin

Elevation (feet): 3070'

Subbasin: Deschutes

Aspect: north

Depositional Environment

Alluvial

Lacustrine

Coastal

Residual

Colluvial

Rockshelter

Eolian

Spring

Erosional

Other

Glacial

Soil Description:

Volcanic silt and sand; caves (lava tubes) in near vicinity

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation (circle items):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Oregon State Historic Preservation Office | Cultural Resources Reporting Form- 4

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation Description:

On-site vegetation includes sagebrush, scattered juniper, and rabbitbrush. Indian rice grass and Great Basin wild rye in the site vicinity.

WATER SOURCES

Name	Type	Status	Class	FROM DATUM
Deschutes River				(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

FROM DATUM

Distance Bearing

Site Setting (Discuss environmental setting of site relevant to site location, including on-site vegetation, topography, dated landforms and formation processes):

(b) (3) Cultural Resources (ARPA) (b) (3) Cultural Resources (ARPA) (b) (3) Cultural Resources (ARPA)
[REDACTED] is located on a [REDACTED] BLM managed parcel near Redmond [REDACTED] Vegetation at
the site includes low sagebrush and rabbitbrush shrubs and scattered junipers. [REDACTED] (b) (3) Cultural Resources (ARPA)
(b) (3) Cultural Resources (ARPA) grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the
vicinity. The [REDACTED] parcel contains Redmond Caves. [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) The general topography at the site is relatively flat (0-5% slope).

Physical Data

Site Length (feet meters): 20 meters

Site Width (feet meters) : 20 meters

Depth of Cultural Deposits (centimeters): unknown

Site Area (acres, square feet or square meters): 40 square meters

Date(s) of Use (as specific as possible)

Beginning Date: Ending Date:

How Date(s)
Determined:**Site Visit Information:**Visit Date: Site Condition: good
9/28/2002Impact Agent(s):
erosion, possible
artifact collectorsWere [REDACTED] materials collected?
no**Site Conditions (circle):**

- Unknown - No data or condition unknown
 Excellent - Site damage = or < 5% damage.
 Good - Site damage > 5% and < 40%.
 Fair - Site damage = or > 40% and < 60%.
 Poor - Site damage > 60% and < 95%.
 Destroyed - Site damage = or > 95%.

Impact Agents (circle):

Agriculture	None	Collected
Animal/burrowing	Other	Trail
Animal/trampling	Partial/Full excavation	Unknown
Bioturbation	Railroad	Utilities
Campground	Recreation: motorized	Vandalism → Altered
Cryoturbation	Recreation: non-motorized	Vandalism - Destroyed
Decay	Road	Vandalism -
Erosion	Theft - Digging and Removal	Dismantled/Removed/Displaced
Fire	Theft - Surface	Water/Inundated
Oravity		Weathering
Logging		

Oregon State Historic Preservation Office | Cultural Resources Reporting Form- 6

The Following Were Observed:(circle and include details or other artifacts in the site description below).

Bone Tool	Shell	Wood Other
Shell Tool	Textiles	Debitage
Fire Cracked Rock	Glass	Ground Stone Tool
Ceramics	Brick	Cobble Tool
Metal Tool	Knapped Stone Tool	Human Skeletal Remain
Metal Other	Faunal Remains	Arrowhead
Wood Tool	Dart	Cans
Floral Remains	Bottles	Other

Site Description (Include discussion of site condition, found artifacts and other relevant info:

Interpretation of each checked Site Function above:

Site Function:

The site is represented by [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Overturned rocks at the site may have been the result of artifact collectors.

Site function: [REDACTED]

Present Use and Expected Impacts:

The site is located [REDACTED] of the City of Redmond. The [REDACTED] parcel containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on rock outcroppings outside and within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. There is evidence of digging by artifact collectors within the caves.

Site Type(s):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

[REDACTED]

Oregon State Historic Preservation Office | Cultural Resources Reporting Form- 7

Features:

Administration Bld	Hydraulic mine	Ranger Station
Arrastra	Irrigation	Retort
Bridge	Lens	Road
Cabin	Living Floor	Rock Alignment
Cache Pit	Lodge/Resort	Rock Art
Cadastral Marker	Logging Camp	Rock Cairns
Dam/Intake	Lookout	Root Gathering
Dendroglyphs	Midden	Salt Log
Ditch	Mine/Adit	Sawmill
Driveway	Mining mil	Settling pond
Fence/Corral	Non-residential wood structure	Sign
Flume	Other	Stage Stop
Grazing camp	Other Mining equipment	Stock Driveway
Guard Station	Other Residential structure	Stone Fish Trap
Hard Rock Mine	Oven	Telephone Line
Headgates	Peeled Trees	Traditional Cult
Hearth	Picnic/Community	Trail
Historic Structure	Kitchen/ Other Dev Rec	Trailings
Remain	Facility	Trap set/line
Historic wood - purpose unknown	Pipeline	Trash Dump
Holding pond	Post Mold	Trough
Housepit	Raceways	Wall
Hunters shelter	Railroad Grade/Trestle	Weir
Hydraulic face		

(b) (3) Cultural Resources (ARPA)

Functions:

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Report Information

Report Title: Redmond Caves Archeological Project, Fall 2002

Author(s) name: Margaret M. Helzer, Ph.D.

Primary Report (y/n): Preliminary report for Redmond Caves Archaeological Project for Fall 2002

Publication Year: 2003

Recorder Name (first, middle initial, last) Title

Margaret M. Helzer
Research Archaeologist
Oregon State Museum of
Anthropology

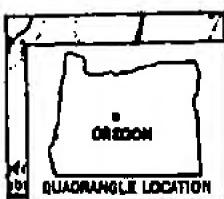
Date Site Recorded:

9/28/2002

Entered or Modified

University of Oregon
Field Studies Class, Fall
Term 2002

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Figure 1. Location of Redmond Caves Project Area.

Redmond Caves [REDACTED] **BLM Parcel**
Showing location of [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Figure 2. Location of Site [REDACTED]

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Central Oregon Heritage Group

CULTURAL RESOURCE SITE RECORD

ADMINISTRATIVE DATA

SITE NUMBER:

SMITHSONIAN NUMBER:

OTHER TEMP. NO(S):

PROJECT NUMBER:

OWNER: BLM

MANAGEMENT LOCATION: Prineville

COUNTY: Deschutes

STATE: Oregon

SITE NAME: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

LOCATIONAL DATA

LEGAL DESCRIPTION: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

UTM: Zone: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Easting: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Northing: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

GPS: Yes

GPS DATUM: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

USGS QUAD(S) NAME: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SERIES: 7.5

DATE: 1962

MAP PROJECTION DATUM: NAD27

Describe access to site from permanent feature and how to find primary datum:

On the south side of Redmond, (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This is (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the Redmond Caves parcel.

ENVIRONMENTAL DATA

BASIN: Deschutes River Basin

SUB-BASIN: Deschutes

PROVINCE: High Lava Plains

ELEVATION: 3070 Feet

SLOPE: 0-5 %

ASPECT: North

DEPOSITIONAL ENVIRONMENT ON SITE: volcanic

SURFACE SEDIMENT TEXTURE ON SITE: (Check as many as needed.)

sand	silt	clay	gravel	bedrock	cinders	other
X	X		X			

SITE SETTING

Vegetation On Site: juniper, sagebrush, rabbitbrush

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) **VEGETATION**

On Site: Vegetation includes sagebrush, scattered juniper, and rabbitbrush.

Surrounding Site: Indian rice grass, lomatium, Great Basin wild rye.

WATER SOURCE

Water Sources (multiple entries possible)

Name	Water Type	Water Status	Distance from Site in Meters
Deschutes River	River		(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE NUMBER:

SMITHSONIAN NUMBER:

Other environmental features/observations (relevant to site location/formation):

[REDACTED] is located on a [REDACTED] BLM managed parcel near Redmond [REDACTED]. Vegetation at the site includes low sagebrush and rabbitbrush shrubs and scattered junipers. [REDACTED] grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the vicinity. A low basalt outcrop and mature juniper tree are located along the southwest perimeter of the site. The [REDACTED] parcel contains Redmond Caves.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) The general topography at the site is relatively flat (0-5% slope).

RESOURCE DATA

SITE TYPE(S): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE DESCRIPTION: The site is represented by (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). There were many recently overturned rocks in this site.

SITE AREA: 228 Sq. Meters approx. 0.06 Acres

(Formula for the area of an ellipse is L x W x 3.14/4; to compute acres from square meters divide square meters by 4047.)

CULTURAL DEPTH: (Y/N/U); y 40cm

TYPE OF EVIDENCE FOR CULTURAL DEPTH: subsurface testing

CULTURAL DEPTH: 0 cm Soil surface to top of cultural deposit.

40cm Soil surface to known bottom of deepest cultural deposit.

CULTURAL PERIOD(S): prehistoric

METHOD FOR CULTURAL PERIOD DETERMINATION: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

DATE RANGE FOR SITE: unkown

METHOD FOR SITE DATE RANGE DETERMINATION: no diagnostic [REDACTED] recovered

SITE CONDITION

CONDITION: fair

IMPACT AGENT: Erosion, deflation.

DESCRIPTION OF DAMAGE (bioturbation, recreation, vandalism, management activity):

The deposits are relatively shallow; although material was collected as low as 40 cm below the surface, the majority of the cultural materials are concentrated in the top 20-30cm of soil. It is likely that [REDACTED] are being exposed to the surface as deflation and wind erosion of sandy sediments occur. Bioturbation (both animal and human caused) may also be contributing to the impact of the site.

RESEARCH/SITE TESTING (Y/N):

SITE HAS BEEN TESTED: yes DATA RECOVERY: no C-14 DATED: no

SURFACE AREA FORMALLY EXCAVATED: 2.25 M2

VOLUME OF EXCAVATED DEPOSITS: 1.175 M3

OBSIDIAN SOURCING/HYDRATION: yes

COMMENTS:

Discovery and reporting of the site is being conducted by the University of Oregon State Museum of Anthropology in association with the Redmond Caves Archaeological Project. The project involves archaeological investigations of a [REDACTED] BLM managed parcel in Redmond, Oregon.

SITE NUMBER:

SMITHSONIAN NUMBER:

INTERPRETATION OF SITE FUNCTION:

PRESENT USE AND EXPECTED IMPACTS:

The site is located [b] of the City of Redmond. The [b] containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on the rock outcroppings and walls within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. The BLM and the City of Redmond are planning to develop the [b] parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. The work is being conducted with University of Oregon students in Bend during Fall and Spring terms; the project is expected to take a total of four to five years. Interim reports are generated after each term and a complete synthesized report will be published at the culmination of the project.

MANAGEMENT DATA

NATIONAL REGISTER STATUS (listed, eligible, insufficient data, non-eligible):
(Provide justification, include discussion of integrity, context, and National Register criteria.)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MANAGEMENT POTENTIAL (Y/N):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MANAGEMENT COMMENTS:

The BLM and the City of Redmond are planning to develop the [b] parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. Recommendations on how to reduce any possible detrimental impacts to the site will be included in the final report at the culmination of the Redmond Caves Archaeological Project.

(c) (3) Cultural Resources (ARPA, Sec. 304, NHPA) MATERIALS COLLECTED (Y/N): yes

DATE(S) COLLECTED: May 3, 2003

PRESENT LOCATION OF COLLECTION: State Museum of Anthropology

ASSOCIATED REPORTS (PAST PROJECTS):

Redmond Caves Archaeological Project-Interim Report Fall 2002: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

Redmond Caves Archaeological Project-Interim Report Spring 2003: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

NAME OF RECORDER(S): Margaret M. Helzer

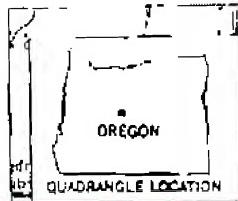
FIELD VISIT DATE: Oct. 12, 2002, May 3, 2003

NAME OF SITE RECORD AUTHOR(S): Margaret M. Helzer

TITLE: Research Archaeologist

NAME OF AGENCY: State Museum of Anthropology, University of Oregon Field Studies Class

SITE RECORD COMPLETION DATE: 6/15/03

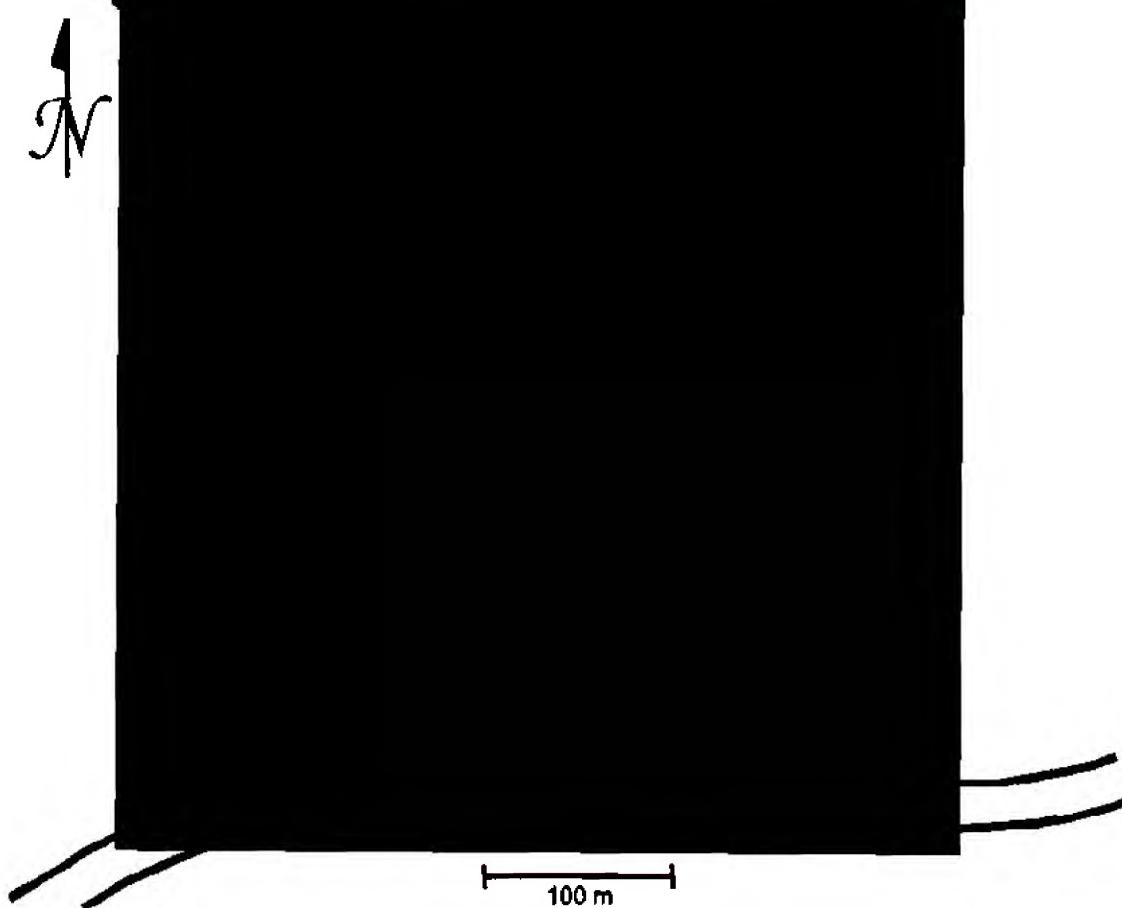


(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

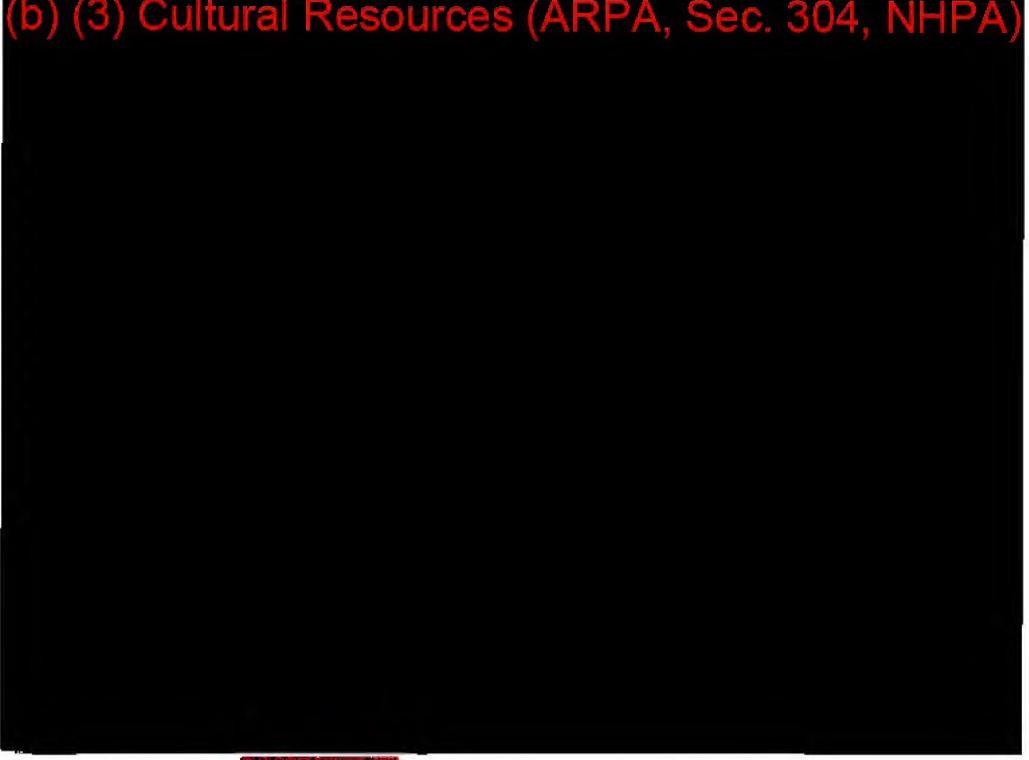
Location of Redmond Caves Project Area.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Sketch map of Redmond Caves parcel, sites not to scale.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Sketch map of [REDACTED] showing excavation units and site boundary.
Excavation units not to scale.

Table 2. Site [redacted] excavation units by level.

Unit	Level	Depth
TP-1	1	0-5 cm
	2	5-10 cm
	3	10-15 cm
	4	15-20 cm
	5	20-25 cm
	6	25-30 cm
	7	25-35 cm
TP-2	1	0-5 cm
	2	5-10 cm
	3	10-15 cm
	4	15-20 cm
Probe 1	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
	4	30-40 cm

Administrative Data

Smithsonian Number:

Alternate ID Numbers:

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

National Register Status:

Eligible

Listed

Not Eligible

Unevaluated

Site Name: RC-4

District: Prineville

County: Deschutes

Agency: Bureau of Land Management

Firm: Oregon State Museum of Anthropology

Cultural Period(s) (choose one):

Unknown

Paleo (10,500 BP or earlier)

Archaic (Specific period not established)

Early Archaic (10,500 BP - 7,000 BP)

Middle Archaic (7,000 BP - 2,000 BP)

Late Archaic (2,000 BP - Contact)

Contact Period

Historic

19th Cent.

Early 20th Century (1900-1928)

Depression/WWII (1929-1950)

Recent (post 1950)

Multicomponent (Historic/Prehistoric)

Multicomponent (Prehistoric)

Multicomponent (Historic)

Prehistoric (Undetermined)

Attachments:

Figure 1: Topographic map showing project area

Figure 2: Sketch map showing location of site in relation to Redmond Caves and other associated sites and isolates

Figure 3: Photograph of University of Oregon students mapping [REDACTED]

(b) (3) Cultural Resources

Locational Data

Legal Description (nw ne sw se): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Township: (b) (3) Caves

N/S:

Range: (b) (3) Caves

E/W:

Section: (b) (3) Caves

(b) (3) Cultural Resources

DLC:

UTM Zone: (b) (3) Cells

Eastng: 645532

Northng: (b) (3) Cultural Resources

USGS Quad Series: 7.5

Quad Name: (b) (3) Cultural Resources

Quad Date: 1962

GPS? (y/n): yes

UTM Datum: NAD27

Describe access to site:

On the south side of Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This is (b) (3) Cultural Resources (ARPA, Sec.

of the Redmond
Caves parcel.

Environmental Data

Province: High Lava Plains

Drainage: Deschutes

Basin: Deschutes River Basin

Elevation (feet): 3070'

Subbasin: Deschutes

Aspect: north

Depositional Environment

Alluvial

Lacustrine

Coastal

Residual

Colluvial

Rockshelter

Eolian

Spring

Erosional

Other

Glacial

Soil Description:

Volcanic silt and sand; caves (lava tubes) in near vicinity

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation (circle items):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation Description:

On-site vegetation includes sagebrush, scattered juniper, and rabbitbrush. Indian rice grass and Great Basin wild rye in the site vicinity.

WATER SOURCES

Name	Type	Status	Class
Deschutes River			

FROM DATUM

Distance	Bearing
(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)	

Site Setting (Discuss environmental setting of site relevant to site location, including on-site vegetation, topography, dated landforms and formation processes):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) is located on a (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) BLM managed parcel near Redmond (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). Vegetation at the site includes low sagebrush and rabbitbrush shrubs and scattered junipers. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the vicinity. A low basalt outcrop and mature juniper tree are located along the southwest perimeter of the site. The (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) parcel contains Redmond Caves. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) The general topography at the site is relatively flat (0-5% slope).

Physical Data

Site Length (feet meters): 21 meters
 Site Width (feet meters) : 11 meters

Depth of Cultural Deposits (centimeters): unknown
 Site Area (acres, square feet or square meters): 228 meters

Date(s) of Use (as specific as possible)

Beginning Date: Ending Date:

How Date(s)
Determined:

Site Visit Information:

Visit Date: Site Condition: good
 10/12/2002 Impact Agent(s):
 erosion, possible
 artifact collectors

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
 materials collected?
 no

Site Conditions (circle):

- Unknown - No data or condition unknown
- Excellent - Site damage = or < 5% damage.
- Good - Site damage > 5% and < 40%.
- Fair - Site damage = or > 40% and < 60%.
- Poor - Site damage > 60% and < 95%.
- Destroyed - Site damage = or > 95%.

Impact Agents (circle):

Agriculture	None	Collected
Animal/burrowing	Other	Trail
Animal/trampling	Partial/Full excavation	Unknown
Bioturbation	Railroad	Utilities
Campground	Recreation-motorized	Vandalism Altered
Cryoturbation	Recreation-non-motorized	Vandalism - Destroyed
Decay	Road	Vandalism -
Erosion	Theft - Digging and	Dismantled/Removed/Displaced
Fire	Removal	Water/Inundated
Gravity	Theft - Surface	Weathering
Logging		

The Following Were Observed:(circle and include details or other artifacts in the site description below).

Bone Tool	Shell	Wood Other
Shell Tool	Textiles	Debitage
Fire Cracked Rock	Glass	Ground Stone Tool
Ceramics	Brick	Cobble Tool
Metal Tool	Knapped Stone Tool	Human Skeletal Remain
Metal Other	Faunal Remains	Arrowhead
Wood Tool	Dart	Cans
Floral Remains	Bottles	Other

Site Description (Include discussion of site condition, found artifacts and other relevant info:

Site Function:

The site is represented by (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

There were many overturned rocks in this site, a possible result of (b) (3) Cultural Resources collectors.

Site function: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Interpretation of each checked Site Function above:

Present Use and Expected Impacts:

The site is located (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the City of Redmond. The (b) (3) Cultural Resources parcel containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on rock outcroppings outside and within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. There is evidence of digging by (b) (3) Cultural Resources collectors within the caves.

Site Type(s):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Oregon State Historic Preservation Office | Cultural Resources Reporting Form- 7

Features:

Administration Bld	Hydraulic mine	Ranger Station
Arrastra	Irrigation	Retort
Bridge	Lens	Road
Cabin	Living Floor	Rock Alignment
Cache Pit	Lodge/Resort	Rock Art
Cadastral Marker	Logging Camp	Rock Cairns
Dam/Intake	Lookout	Root Gathering
Dendroglyphs	Midden	Salt Log
Ditch	Mine/Adit	Sawmill
Driveway	Mining mil	Settling pond
Fence/Corral	Non-residential wood structure	Sign
Flume	Other	Stage Stop
Grazing camp	Other Mining equipment	Stock Driveway
Guard Station	Other Residential structure	Stone Fish Trap
Hard Rock Mine	Oven	Telephone Line
Headgates	Peeled Trees	Traditional Cult
Hearth	Picnic/Community	Trail
Historic Structure	Kitchen/ Other Dev Rec	Trailings
Remain	Facility	Trap set/line
Historic wood - purpose unknown	Pipeline	Trash Dump
Holding pond	Post Mold	Trough
Housepit	Raceways	Wall
Hunters shelter	Railroad Grade/Trestle	Weir
Hydraulic face		

(b) (3) Cultural Resources

Functions:

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Report Information

Report Title: Redmond Caves Archeological Project, Fall 2002

Author(s) name: Margaret M. Helzer, Ph.D.

Primary Report (y/n): Preliminary report for Redmond Caves Archaeological Project for Fall 2002

Publication Year: 2003

Recorder Name (first, middle Title
initial, last)

Margaret M. Helzer
Research Archaeologist
Oregon State Museum of
Anthropology

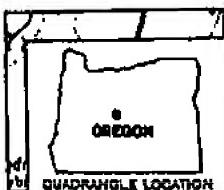
University of Oregon
Field Studies Class, Fall
Term 2002

Date Site Recorded:

10/12/2002

Entered or Modified

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Figure 1. Location of Redmond Caves Project Area.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Redmond Caves

BLM Parcel

Showing location of (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Figure 2. Location of Site

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Figure 3. University of Oregon students mapping site [REDACTED] pin flags
marking [REDACTED]

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Central Oregon Heritage Group

CULTURAL RESOURCE SITE RECORD

ADMINISTRATIVE DATA

SITE NUMBER: (b) (3) Cultural Resources (ARPA)
 OTHER TEMP. NO(S): (b) (3) Cultural Res.
 PROJECT NUMBER:
 OWNER: BLM
 COUNTY: Deschutes
 SITE NAME: (b) (3) Cultural Re.

SMITHSONIAN NUMBER:

MANAGEMENT LOCATION: Prineville
STATE: Oregon

LOCATIONAL DATA

LEGAL DESCRIPTION: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

UTM: Zone: (b) (3) Cultural Res. Easting: (b) (3) Cultural Resources Northing: (b) (3) Cultural Res.

:

GPS: Yes

GPS DATUM:

USGS QUAD(S) NAME: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SERIES: 7.5

DATE: 1962

MAP PROJECTION DATUM: NAD27

Describe access to site from permanent feature and how to find primary datum:

On the south side of Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This is (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) in the Redmond Caves parcel.

ENVIRONMENTAL DATA

BASIN: Deschutes River Basin

SUB-BASIN: Deschutes

PROVINCE: High Lava Plains

ELEVATION: 3070 Feet

SLOPE: 0-5 %

ASPECT: North

DEPOSITIONAL ENVIRONMENT ON SITE: volcanic

SURFACE SEDIMENT TEXTURE ON SITE: (Check as many as needed.)

sand	silt	clay	gravel	bedrock	cinders	other
X	X		X			

SITE SETTING

Vegetation On Site: juniper, sagebrush, rabbitbrush

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

VEGETATION

On Site: Vegetation includes sagebrush, scattered juniper, and rabbitbrush.

Surrounding Site: Indian rice grass and Great Basin wild rye.

WATER SOURCE

Water Sources (multiple entries possible)

Name	Water Type	Water Status	Distance from Site in Meters
Deschutes River	River		(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE NUMBER:

SMITHSONIAN NUMBER:

Other environmental features/observations (relevant to site location/formation):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) is located on a (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) BLM managed parcel near Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) Vegetation at the site includes low sagebrush and rabbitbrush shrubs and scattered junipers. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the vicinity. The (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) parcel contains Redmond Caves (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). The general topography at the site is relatively flat (0-5% slope).

RESOURCE DATA

SITE TYPE(S): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE DESCRIPTION: The site is represented by (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This site is similar to the other sites discovered in close proximity to the Redmond Caves. The deposits appear to relatively shallow (although subsurface testing has not been conducted at this location). The soil at the site is a silty sand associated with pumice from a volcanic eruption. Vascular basalt characterizes the bedrock that is seen on the surface at some locations in the site. Testing of the site is recommended to more fully characterize the archaeological resources in this location and to more accurately assess the actual site boundaries.

SITE AREA: 600 Sq. Meters approx. 0.15 Acres

(Formula for the area of an ellipse is L x W x 3.14/4; to compute acres from square meters divide square meters by 4047.)

CULTURAL DEPTH: (Y/N/L) Unknown.

TYPE OF EVIDENCE FOR CULTURAL DEPTH: no subsurface testing conducted

CULTURAL PERIOD(S): prehistoric

METHOD FOR CULTURAL PERIOD DETERMINATION: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

DATE RANGE FOR SITE: unknown

SITE CONDITION

CONDITION: good

IMPACT AGENT: Erosion, bioturbation (assumed)

DESCRIPTION OF DAMAGE (bioturbation, recreation, vandalism, management activity):

RESEARCH/SITE TESTING (Y/N):

SITE HAS BEEN TESTED: no DATA RECOVERY: no C-14 DATED: no

SURFACE AREA FORMALLY EXCAVATED: NA

VOLUME OF EXCAVATED DEPOSITS: NA

OBSIDIAN SOURCING/HYDRATION: NA

COMMENTS:

Discovery and reporting of the site is being conducted by the University of Oregon State Museum of Anthropology in association with the Redmond Caves Archaeological Project. The project involves archaeological investigations of a (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) BLM managed parcel in Redmond, Oregon.

INTERPRETATION OF SITE FUNCTION: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

PRESENT USE AND EXPECTED IMPACTS:

The site is located (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the City of Redmond. The (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) parcel containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on the rock outcroppings and

SITE NUMBER:

SMITHSONIAN NUMBER:

walls within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. The BLM and the City of Redmond are planning to develop the [REDACTED] parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. The work is being conducted with University of Oregon students in Bend during Fall and Spring terms; the project is expected to take a total of four to five years. Interim reports are generated after each term and a complete synthesized report will be published at the culmination of the project.

MANAGEMENT DATA

NATIONAL REGISTER STATUS (listed, eligible, insufficient data, non-eligible):

(Provide justification, include discussion of integrity, context, and National Register criteria.)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MANAGEMENT POTENTIAL (Y/N):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MANAGEMENT COMMENTS:

The BLM and the City of Redmond are planning to develop the [REDACTED] parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. Recommendations on how to reduce any possible detrimental impacts to the site will be included in the final report at the culmination of the Redmond Caves Archaeological Project.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MATERIALS COLLECTED (Y/N): No

ASSOCIATED REPORTS (PAST PROJECTS):

Redmond Caves Archaeological Project-Interim Report Fall 2002: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

Redmond Caves Archaeological Project-Interim Report Spring 2003: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

NAME OF RECORDER(S): Margaret M. Helzer

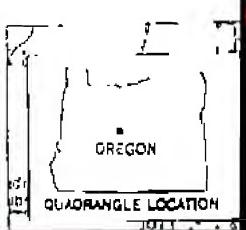
FIELD VISIT DATE: Oct. 12, 2002

NAME OF SITE RECORD AUTHOR(S): Margaret M. Helzer

TITLE: Research Archaeologist

NAME OF AGENCY: University of Oregon Field Studies Class, Fall Term 2002

SITE RECORD COMPLETION DATE: 6/15/03

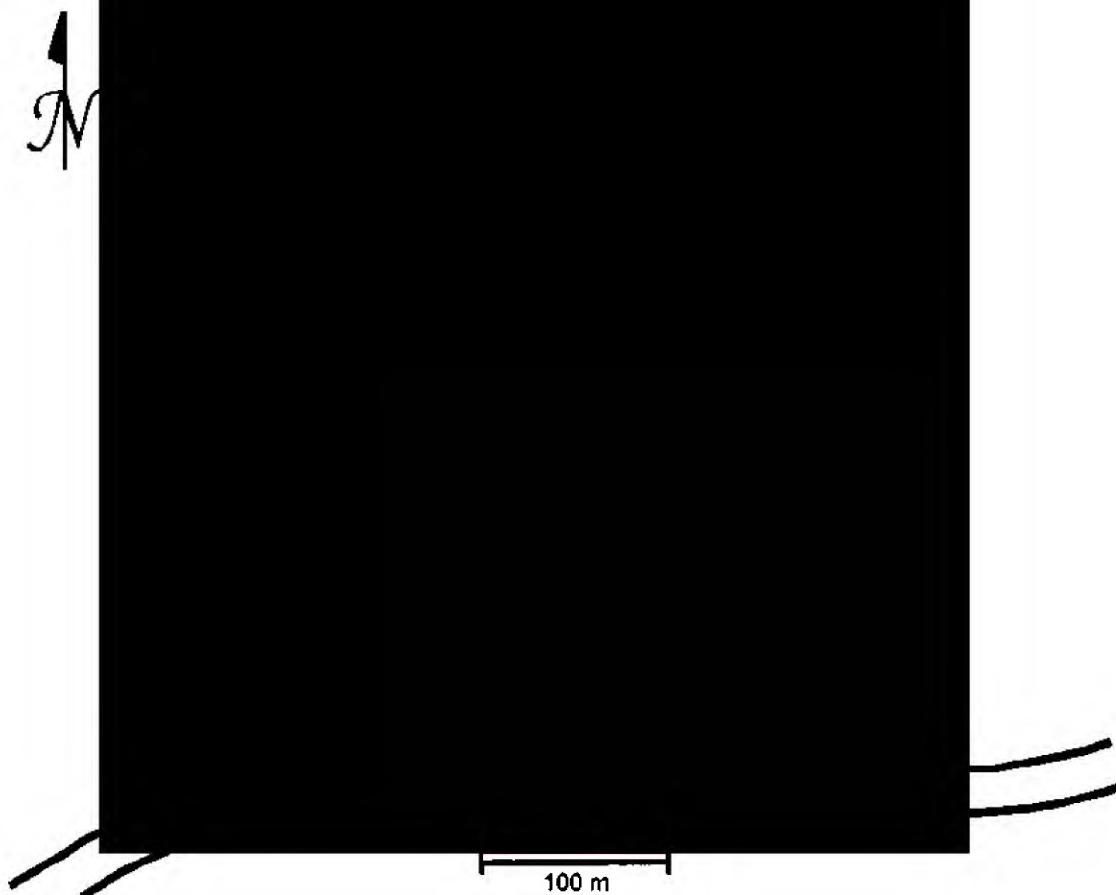


(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Location of Redmond Caves Project Area.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Sketch map of Redmond Caves parcel, sites not to scale.

Administrative Data

Smithsonian Number:

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Alternate ID Numbers:

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

National Register Status:

Eligible

Listed

Not Eligible

Unevaluated

Site Name:

(b) (3) Cultural Resources

District: Prineville

County: Deschutes

Agency: Bureau of Land Management

Firm: Oregon State Museum of Anthropology

Cultural Period(s) (choose one):

Unknown

19th Cent.

Paleo (10,500 BP or earlier)

Early 20th Century (1900-1928)

Archaic (Specific period not established)

Depression/WWII (1929-1950)

Early Archaic (10,500 BP - 7,000 BP)

Recent (post 1950)

Middle Archaic (7,000 BP - 2,000 BP)

Multicomponent (Historic/Prehistoric)

Late Archaic (2,000 BP - Contact)

Multicomponent (Prehistoric)

Contact Period

Multicomponent (Historic)

Historic

Prehistoric (Undetermined)

Attachments:

Figure 1: Topographic map showing project area

Figure 2: Sketch map showing location of site in relation to Redmond Caves and other associated sites and isolates

Oregon State Historic Preservation Office | Cultural Resources Reporting Form- 2

Locational Data

Legal Description (nw ne sw se): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Township: (b) (3) Cultural R.

N/S:

Range: (b) (3) Cultur

E/W:

Section: (b) (3) Cultura

1/4: (b) (3) Cultura

1/4: (b) (3) Cultura

1/4: (b) (3) Cultura

DLC:

UTM Zone: (b) (3) Cultu

Easting: (b) (3) Cultural Resources (A)

Northing: (b) (3) Cultural Resources (A)

USGS Quad Series: 7.5

Quad Name: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Quad Date: 1962

GPS? (y/n): yes

UTM Datum: NAD27

Describe access to site:

On the south side of Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This is (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the Redmond Caves parcel.

Environmental Data

Province: High Lava Plains

Drainage: Deschutes

Basin: Deschutes River Basin

Elevation (feet): 3070'

Subbasin: Deschutes

Aspect: north

Depositional Environment

Alluvial

Lacustrine

Coastal

Residual

Colluvial

Rockshelter

Eolian

Spring

Erosional

Other

Glacial

Soil Description:

Volcanic silt and sand; caves (lava tubes) in near vicinity

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation (circle items):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Oregon State Historic Preservation Office | Cultural Resources Reporting Form- 4

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation Description:

On-site vegetation includes sagebrush, scattered juniper, and rabbitbrush. Indian rice grass and Great Basin wild rye in the site vicinity.

WATER SOURCES				FROM DATUM	
Name	Type	Status	Class	Distance	Bearing
Deshutes River				(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)	

Site Setting (Discuss environmental setting of site relevant to site location, including on-site vegetation, topography, dated landforms and formation processes):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) is located on a (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) BLM managed parcel near Redmond (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). Vegetation at the site includes low sagebrush and rabbitbrush shrubs and scattered junipers. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the vicinity. The (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) parcel contains Redmond Caves (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). The general topography at the site is relatively flat (0-5% slope).

Physical Data

Site Length (feet meters): 30 meters
Site Width (feet meters) : 20 meters

Depth of Cultural Deposits (centimeters): unknown
Site Area (acres, square feet or square meters): 600 square meters

Date(s) of Use (as specific as possible)

Beginning Date: Ending Date: How Date(s)
Determined:

Site Visit Information:

Visit Date: Site Condition: fair
10/12/2002

Impact Agent(s):
erosion, possible
artifact collectors

(b) (5) Cultural Resources (ARPA, Sec. 304, NHPA)
[REDACTED] materials collected?
no

Site Conditions (circle):

Unknown - No data or condition unknown
Excellent - Site damage = or < 5% damage.
Good - Site damage > 5% and < 40%.
Fair - Site damage = or > 40% and < 60%.
Poor - Site damage > 60% and < 95%.
Destroyed - Site damage = or > 95%.

Impact Agents (circle):

Agriculture	None	Collected
Animal/burrowing	Other	Trail
Animal/trampling	Partial/Full excavation	Unknown
Bioturbation	Railroad	Utilities
Campground	Recreation: motorized	Vandalism - Altered
Cryoturbation	Recreation: non-motorized	Vandalism - Destroyed
Decay	Road	Vandalism -
Erosion	Theft - Digging and	Dismantled/Removed/Displaced
Fire	Removal	Water/Inundated
Gravity	Theft - Surface	Weathering
Logging		

The Following Were Observed:(circle and include details or other artifacts in the site description below).

Bone Tool	Shell	Wood Other
Shell Tool	Textiles	Debitage
Fire Cracked Rock	Glass	Ground Stone Tool
Ceramics	Brick	Cobble Tool
Metal Tool	Knapped Stone Tool	Human Skeletal Remain
Metal Other	Faunal Remains	Arrowhead
Wood Tool	Dart	Cans
Floral Remains	Bottles	Other

Site Description (Include discussion of site condition, found artifacts and other relevant info:

Site Function:

The site is represented by (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Overturned rocks in the site may be the result of artifact collectors.

Site function: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Interpretation of each checked Site Function above:

Present Use and Expected Impacts:

The site is located (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the City of Redmond. The (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) parcel containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on rock outcroppings outside and within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. There is evidence of digging by artifact collectors within the caves.

Site Type(s):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Oregon State Historic Preservation Office | Cultural Resources Reporting Form- 7

Features:

Administration Bld	Hydraulic mine	Ranger Station
Arrastra	Irrigation	Retort
Bridge	Lens	Road
Cabin	Living Floor	Rock Alignment
Cache Pit	Lodge/Resort	Rock Art
Cadastral Marker	Logging Camp	Rock Cairns
Dam/Intake	Lookout	Root Gathering
Dendroglyphs	Midden	Salt Log
Ditch	Mine/Adit	Sawmill
Driveway	Mining mil	Settling pond
Fence/Corral	Non-residential wood structure	Sign
Flume	Other	Stage Stop
Grazing camp	Other Mining equipment	Stock Driveway
Guard Station	Other Residential structure	Stone Fish Trap
Hard Rock Mine	Oven	Telephone Line
Headgates	Peeled Trees	Traditional Cult
Hearth	Picnic/Community	Trail
Historic Structure	Kitchen/ Other Dev Rec Facility	Trailings
Remain	Pipeline	Trap set/line
Historic wood - purpose unknown	Post Mold	Trash Dump
Holding pond	Raceways	Trough
Housepit	Railroad Grade/Trestle	Wall
Hunters shelter		Weir
Hydraulic face		

(b) (3) Cultural Resources

Functions:

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Report Information

Report Title: Redmond Caves Archeological Project, Fall 2002

Author(s) name: Margaret M. Helzer, Ph.D.

Primary Report (y/n): Preliminary report for Redmond Caves Archaeological Project for Fall 2002

Publication Year: 2003

Recorder Name (first, middle initial, last) Title

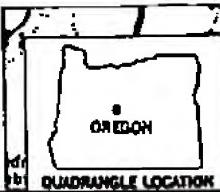
Margaret M. Helzer
Research Archaeologist
Oregon State Museum of
Anthropology

Date Site Recorded:

10/12/2002

Entered or Modified

University of Oregon
Field Studies Class, Fall
Term 2002



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Figure 1. Location of Redmond Caves Project Area.

Redmond Caves [REDACTED] **BLM Parcel**
Showing location of [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Figure 2. Location of Site [REDACTED] (b) (3) Cultural Resources

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

7.5 GUARD

Central Oregon Heritage Group

CULTURAL RESOURCE SITE RECORD

ADMINISTRATIVE DATA

SITE NUMBER: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
 OTHER TEMP. NO(S): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
 PROJECT NUMBER:
 OWNER: BLM
 COUNTY: Deschutes
 SITE NAME: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SMITHSONIAN NUMBER:

 MANAGEMENT LOCATION: Prineville
 STATE: Oregon
LOCATIONAL DATA

LEGAL DESCRIPTION: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

UTM: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) Easting: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) Northing: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
 GPS: Yes GPS DATUM:

USGS QUAD(S) NAME: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) SERIES: 7.5 DATE: 1962

MAP PROJECTION DATUM: NAD27

Describe access to site from permanent feature and how to find primary datum:

On the south side of Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This is (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the Redmond Caves parcel.

ENVIRONMENTAL DATA

BASIN: Deschutes River Basin SUB-BASIN: Deschutes PROVINCE: High Lava Plains

ELEVATION: 3070 Feet SLOPE: 0-5 % ASPECT: North

DEPOSITIONAL ENVIRONMENT ON SITE:

SURFACE SEDIMENT TEXTURE ON SITE: (Check as many as needed.)

sand	silt	clay	gravel	bedrock	cinders	other
X	X		X			

SITE SETTING

Vegetation On Site: juniper, sagebrush, rabbitbrush

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

VEGETATION

On Site: Vegetation includes sagebrush, scattered juniper, and rabbitbrush.

Surrounding Site: Indian rice grass and Great Basin wild rye.

WATER SOURCE

Water Sources (multiple entries possible)

Name	Water Type	Water Status	Distance from Site in Meters
Deschutes River	River		(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE NUMBER:

SMITHSONIAN NUMBER:

Other environmental features/observations (relevant to site location/formation):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) is located on a (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) BLM managed parcel near Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) Vegetation at the site includes low sagebrush and rabbitbrush shrubs and scattered junipers. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the vicinity. The (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) parcel contains Redmond Caves (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). The general topography at the site is relatively flat (0-5% slope).

RESOURCE DATA

SITE TYPE(S): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE DESCRIPTION: The site is represented by (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). No tools were encountered during the recording of the site. No artifacts were collected. This site is similar to the other sites discovered in close proximity to the Redmond Caves. The deposits appear to relatively shallow (although subsurface testing has not been conducted at this location). The soil at the site is a silty sand associated with pumice from a volcanic eruption. Vesicular basalt characterizes the bedrock that is seen on the surface at some locations in the site. Testing of the site is recommended to more fully characterize the archaeological resources in this location and to more accurately assess the actual site boundaries.

SITE AREA: 225 Sq. Meters approx. 0.06 Acres

(Formula for the area of an ellipse is L x W x 3.14/4; to compute acres from square meters divide square meters by 4047.)

CULTURAL DEPTH: (Y/N/U) Unknown.

TYPE OF EVIDENCE FOR CULTURAL DEPTH: no subsurface testing conducted

CULTURAL PERIOD(S): prehistoric

METHOD FOR CULTURAL PERIOD DETERMINATION: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

DATE RANGE FOR SITE: unknown

SITE CONDITION

CONDITION: good

IMPACT AGENT: Erosion, bioturbation (assumed).

DESCRIPTION OF DAMAGE (bioturbation, recreation, vandalism, management activity):

RESEARCH/SITE TESTING (Y/N):

SITE HAS BEEN TESTED: no DATA RECOVERY: no C-14 DATED: no

SURFACE AREA FORMALLY EXCAVATED: NA

VOLUME OF EXCAVATED DEPOSITS: NA

OBSIDIAN SOURCING/HYDRATION: NA

COMMENTS:

Discovery and reporting of the site is being conducted by the University of Oregon State Museum of Anthropology in association with the Redmond Caves Archaeological Project. The project involves archaeological investigations of a (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) BLM managed parcel in Redmond, Oregon.

INTERPRETATION OF SITE FUNCTION: (b) (3) Cultural Resources (ARPA, Sec. 304,

SITE NUMBER:

SMITHSONIAN NUMBER:

PRESENT USE AND EXPECTED IMPACTS:

The site is located [b] (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the City of Redmond. The [b] (3) Cultural Resources parcel containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on the rock outcroppings and walls within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. The BLM and the City of Redmond are planning to develop the [b] (3) Cultural Resources parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. The work is being conducted with University of Oregon students in Bend during Fall and Spring terms; the project is expected to take a total of four to five years. Interim reports are generated after each term and a complete synthesized report will be published at the culmination of the project.

MANAGEMENT DATA

NATIONAL REGISTER STATUS (listed, eligible, insufficient data, non-eligible):

(Provide justification, include discussion of integrity, context, and National Register criteria.)

[b] (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MANAGEMENT POTENTIAL (Y/N):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MANAGEMENT COMMENTS:

The BLM and the City of Redmond are planning to develop the [b] (3) Cultural Resources parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. Recommendations on how to reduce any possible detrimental impacts to the site will be included in the final report at the culmination of the Redmond Caves Archaeological Project

[b] (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MATERIALS COLLECTED (Y/N): No

ASSOCIATED REPORTS (PAST PROJECTS):

Redmond Caves Archaeological Project-Interim Report Fall 2002: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

Redmond Caves Archaeological Project-Interim Report Spring 2003: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

NAME OF RECORDER(S): Margaret M. Helzer

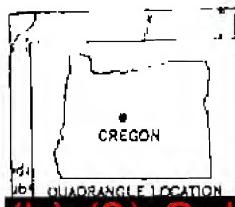
FIELD VISIT DATE: Oct. 12, 2002

NAME OF SITE RECORD AUTHOR(S): Margaret M. Helzer

TITLE: Research Archaeologist

NAME OF AGENCY: State Museum of Anthropology, University of Oregon Field Studies Class

SITE RECORD COMPLETION DATE: 6/15/03

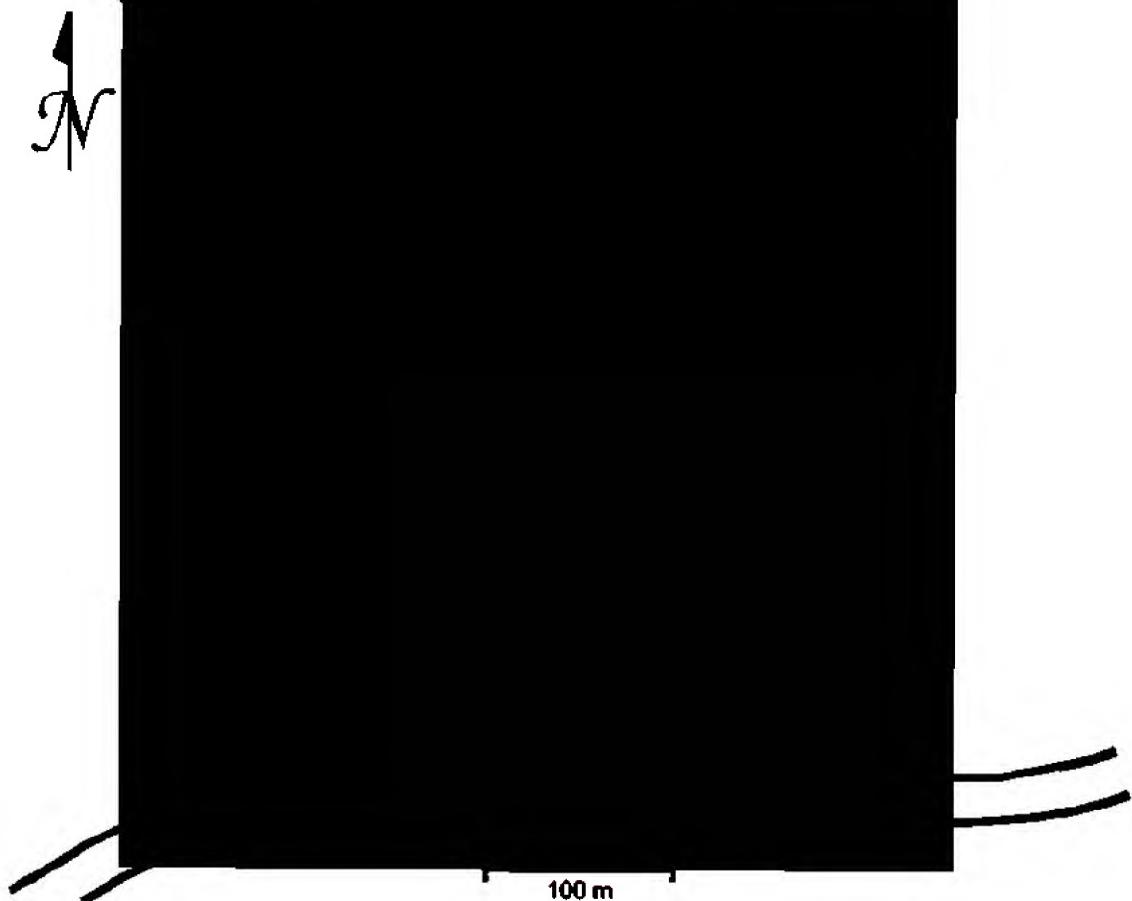


(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Location of Redmond Caves Project Area.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Sketch map of Redmond Caves parcel, sites not to scale.

Administrative Data

Smithsonian Number:

Alternate ID Numbers:

National Register Status:

Eligible

Listed

Not Eligible

Unevaluated

Site Name:

District: Prineville

County: Deschutes

Agency: Bureau of Land Management

Firm: Oregon State Museum of Anthropology

Cultural Period(s) (choose one):

Unknown

Paleo (10,500 BP or earlier)

Archaic (Specific period not established)

Early Archaic (10,500 BP - 7,000 BP)

Middle Archaic (7,000 BP - 2,000 BP)

Late Archaic (2,000 BP - Contact)

Contact Period

Historic

19th Cent.

Early 20th Century (1900-1928)

Depression/WWII (1929-1950)

Recent (post 1950)

Multicomponent (Historic/Prehistoric)

Multicomponent (Prehistoric)

Multicomponent (Historic)

Prehistoric (Undetermined)

Attachments:

Figure 1: Topographic map showing project area

Figure 2: Sketch map showing location of site in relation to Redmond Caves and other associated sites and isolates

Oregon State Historic Preservation Office | Cultural Resources Reporting Form- 2

Locational Data

Legal Description (nw ne sw se): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Township: (b) (3) Cultural Resources

N/S:

Range: (b) (3) Cultural Resources

E/W:

Section: (b) (3) Cultural Resources

1/4: (b) (3) Cultural Resources

1/4: (b) (3) Cultural Resources

1/4: (b) (3) Cultural Resources

DLC:

UTM Zone: (b) (3) Cultural Resources

Easting: 645637

Northing: (b) (3) Cultural Resources

USGS Quad Series: 7.5

Quad Name: (b) (3) Cultural Resources

Quad Date: 1962

GPS? (y/n): yes

UTM Datum: NAD27

Describe access to site:

On the south side of Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This is (b) (3) Cultural Resources corner of the Redmond

Caves parcel.

Environmental Data

Province: High Lava Plains

Drainage: Deschutes

Basin: Deschutes River Basin

Elevation (feet): 3070'

Subbasin: Deschutes

Aspect: north

Depositional Environment

Alluvial

Lacustrine

Coastal

Residual

Colluvial

Rockshelter

Eolian

Spring

Erosional

Other

Glacial

Soil Description:

Volcanic silt and sand; caves (lava tubes) in near vicinity

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation (circle items):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

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(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation Description:

On-site vegetation includes sagebrush, scattered juniper, and rabbitbrush. Indian rice grass and Great Basin wild rye in the site vicinity.

WATER SOURCES

Name Type
Deschutes River

Status

Class

FROM DATUM

Distance Bearing

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Site Setting (Discuss environmental setting of site relevant to site location, including on-site vegetation, topography, dated landforms and formation processes):

(b) (3) Cultural Resources (ARPA) (b) (3) Cultural Resources (ARPA) (b) (3) Cultural Resources (ARPA)
[REDACTED] is located on a [REDACTED] BLM managed parcel near Redmond [REDACTED] Vegetation at
the site includes low sagebrush and rabbitbrush shrubs and scattered junipers. [REDACTED] (b) (3) Cultural Resources (ARPA)
(b) (3) Cultural Resources (ARPA) [REDACTED] grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the
vicinity. The [REDACTED] [REDACTED] parcel contains Redmond Caves [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) [REDACTED] The general topography at the site is relatively flat (0-5% slope).

Physical Data

Site Length (feet meters): 15 meters

Site Width (feet meters) : 15 meters

Depth of Cultural Deposits (centimeters): unknown

Site Area (acres, square feet or square meters): 225 square meters

Date(s) of Use (as specific as possible)

Beginning Date:

Ending Date:

How Date(s)

Determined:

Site Visit Information:

Visit Date: Site Condition: fair
10/12/2002

Impact Agent(s):
erosion, possible
artifact collectors

By EH Cultural Resources (PLA, 2002-024, MPA)
Materials collected?

no

Site Conditions (circle):

Unknown - No data or condition unknown

Excellent - Site damage = or < 5% damage.

Good - Site damage > 5% and < 40%.

Fair - Site damage = or > 40% and < 60%.

Poor - Site damage > 60% and < 95%.

Destroyed - Site damage = or > 95%.

Impact Agents (circle):

Agriculture

None

Collected - ?
b/c

Animal/burrowing

Other

Trail

Animal/trampling

Partial/Full excavation

Unknown

Bioturbation

Railroad

Utilities

Campground

Recreation: motorized

Vandalism - Altered

Cryoturbation

Recreation: non-

Vandalism - Destroyed

Decay

motorized

Vandalism -

Erosion

Road

Dismantled/Removed/Di

Fire

Theft - Digging and

splaced

Gravity

Removal

Water/Inundated

Logging

Theft - Surface

Weathering

The Following Were Observed:(circle and include details or other artifacts in the site description below).

Bone Tool	Shell	Wood Other
Shell Tool	Textiles	Debitage
Fire Cracked Rock	Glass	Ground Stone Tool
Ceramics	Brick	Cobble Tool
Metal Tool	Knapped Stone Tool	Human Skeletal Remain
Metal Other	Faunal Remains	Arrowhead
Wood Tool	Dart	Cans
Floral Remains	Bottles	Other

Site Description (Include discussion of site condition, found artifacts and other relevant info:

Interpretation of each checked Site Function above:

Site Function:

The site is represented by (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Overturned rocks were observed at the site, suggesting possible destruction by artifact collectors..

Site function: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Present Use and Expected Impacts:

The site is located (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the City of Redmond. The (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) parcel containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on rock outcroppings outside and within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. There is evidence of digging by artifact collectors within the caves.

Site Type(s):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

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Features:

Administration Bld	Hydraulic mine	Ranger Station
Arrastra	Irrigation	Retort
Bridge	Lens	Road
Cabin	Living Floor	Rock Alignment
Cache Pit	Lodge/Resort	Rock Art
Cadastral Marker	Logging Camp	Rock Cairns
Dam/Intake	Lookout	Root Gathering
Dendroglyphs	Midden	Salt Log
Ditch	Mine/Adit	Sawmill
Driveway	Mining mill	Settling pond
Fence/Corral	Non-residential wood structure	Sign
Flume	Other	Stage Stop
Grazing camp	Other Mining equipment	Stock Driveway
Guard Station	Other Residential structure	Stone Fish Trap
Hard Rock Mine	Oven	Telephone Line
Headgates	Peeled Trees	Traditional Cult
Hearth	Picnic/Community	Trail
Historic Structure	Kitchen/ Other Dev Rec	Trailings
Remain	Facility	Trap set/line
Historic wood - purpose unknown	Pipeline	Trash Dump
Holding pond	Post Mold	Trough
Housepit	Raceways	Wall
Hunters shelter	Railroad Grade/Trestle	Weir
Hydraulic face		

(b) (3) Cultural Resources

Functions:

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Report Information

Report Title: Redmond Caves Archeological Project, Fall 2002

Author(s) name: Margaret M. Helzer, Ph.D.

Primary Report (y/n): Preliminary report for Redmond Caves Archaeological Project for Fall 2002

Publication Year: 2003

Recorder Name (first, middle initial, last)

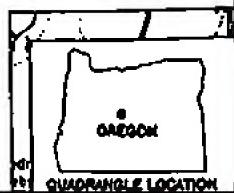
Margaret M. Helzer
Research Archaeologist
Oregon State Museum of
Anthropology

University of Oregon
Field Studies Class, Fall
Term 2002

Date Site Recorded:

10/12/2002

Entered or Modified



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Figure 1. Location of Redmond Caves Project Area.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Redmond Caves **BLM Parcel**

Showing location of (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Figure 2. Location of Site (b) (3) Cultural Resources

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

7.5 Quad

Central Oregon Heritage Group

CULTURAL RESOURCE SITE RECORD

ADMINISTRATIVE DATA

SITE NUMBER: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
 OTHER TEMP. NO(S): (b) (3) Cultural Resource
 PROJECT NUMBER:
 OWNER: BLM
 COUNTY: Deschutes
 SITE NAME: (b) (3) Cultural Resource

SMITHSONIAN NUMBER:

MANAGEMENT LOCATION: Prineville
 STATE: Oregon

LOCATIONAL DATA

LEGAL DESCRIPTION: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

UTM: Zone: (b) (3) Cultural Resources Easting: (b) (3) Cultural Resource Northing: (b) (3) Cultural Resource

GPS : Yes GPS DATUM:

USGS QUAD(S) NAME: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) SERIES: 7.5 DATE: 1962

MAP PROJECTION DATUM: NAD27

Describe access to site from permanent feature and how to find primary datum:

On the south side of Redmond (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This is (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the Redmond Caves parcel.

ENVIRONMENTAL DATA

BASIN: Deschutes River Basin SUB-BASIN: Deschutes PROVINCE: High Lava Plains

ELEVATION: 3070 Feet SLOPE: 0-5 % ASPECT: North

DEPOSITIONAL ENVIRONMENT ON SITE: volcanic

SURFACE SEDIMENT TEXTURE ON SITE: (Check as many as needed.)

sand	silt	clay	gravel	bedrock	cinders	other
X	X		X			

SITE SETTING

Vegetation On Site: juniper, sagebrush, rabbitbrush

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

VEGETATION

On Site: Vegetation includes sagebrush, scattered juniper, and rabbitbrush.

Surrounding Site: Indian rice grass, lomatium and Great Basin wild rye.

WATER SOURCE

Water Sources (multiple entries possible)

Name	Water Type	Water Status	Distance from Site in Meters
Deschutes River	River		(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE NUMBER:

SMITHSONIAN NUMBER:

Other environmental features/observations (relevant to site location/formation):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) is located on a [REDACTED] BLM managed parcel near Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) Vegetation at the site includes low sagebrush and rabbitbrush shrubs and scattered junipers. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the vicinity. The [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) parcel contains Redmond Caves. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) The general topography at the site is relatively flat (0-5% slope).

RESOURCE DATA

SITE TYPE(S): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE DESCRIPTION: The site is represented by (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). The site is located along the northern boundary of the BLM [REDACTED] parcel. A recent road made by vehicles driving around the parcel has been established in the area of the site; and in fact, transects the site. Soil deposits in the site are characterized by loose sandy pumice, with a rock outcropping adjacent to the southwest border of the site. Exploratory probing at the site indicated that the (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) resources at this location are (b) (3) Cultural Resources (ARPA & Sec. 304, NHPA) small area (30 sq meters). A total of twenty-two 30x30x30 cm probes were excavated at the site. No diagnostic tools were recovered in the probes (b) (3) Cultural Resources (ARPA & Sec. 304, NHPA). No features were identified, and it was determined that further testing at the site was not necessary.

SITE AREA: 30 Sq. Meters approx. 0.01 Acres

(Formula for the area of an ellipse is L x W x 3.14/4; to compute acres from square meters divide square meters by 4047.)

CULTURAL DEPTH: (Y/N/U) 30-40cm.

TYPE OF EVIDENCE FOR CULTURAL DEPTH: probes

CULTURAL DEPTH: 0 cm Soil surface to top of cultural deposit.

40 cm Soil surface to known bottom of deepest cultural deposit.

CULTURAL PERIOD(S): prehistoric (Middle to Late Holocene)

METHOD FOR CULTURAL PERIOD DETERMINATION: (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

DATE RANGE FOR SITE: Middle Holocene Beginning Ending

Late Holocene

METHOD FOR SITE DATE RANGE DETERMINATION: point types

SITE CONDITION

CONDITION: fair

IMPACT AGENT: bioturbation, vandalism by road.

DESCRIPTION OF DAMAGE (bioturbation, recreation, vandalism, management activity): The site is being impacted by a new road that transects the site. Vehicles driving over the shallow deposits can disturb (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) and other features of the (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) resources.

RESEARCH/SITE TESTING (Y/N):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

SITE NUMBER:

SMITHSONIAN NUMBER:

COMMENTS:

Discovery and reporting of the site is being conducted by the University of Oregon State Museum of Anthropology in association with the Redmond Caves Archaeological Project. The project involves archaeological investigations of a [REDACTED] BLM managed parcel in Redmond, Oregon.

INTERPRETATION OF SITE FUNCTION:

PRESENT USE AND EXPECTED IMPACTS:

The site is located [REDACTED] of the City of Redmond. The [REDACTED] parcel containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on the rock outcroppings and walls within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. The BLM and the City of Redmond are planning to develop the [REDACTED] parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. The work is being conducted with University of Oregon students in Bend during Fall and Spring terms; the project is expected to take a total of four to five years. Interim reports are generated after each term and a complete synthesized report will be published at the culmination of the project.

MANAGEMENT DATA

NATIONAL REGISTER STATUS (listed, eligible, insufficient data, non-eligible):

(Provide justification, include discussion of integrity, context, and National Register criteria.)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MANAGEMENT POTENTIAL (Y/N):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MANAGEMENT COMMENTS:

The BLM and the City of Redmond are planning to develop the [REDACTED] parcel into a natural area public park. Archaeological investigations are underway to assess the cultural resources associated with the parcel and to assess any impacts the planned park may have on these resources. Recommendations on how to reduce any possible detrimental impacts to the site will be included in the final report at the culmination of the Redmond Caves Archaeological Project.

[REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

MATERIALS COLLECTED (Y/N): Yes

DATE COLLECTED: 10/19/2002, 5/10/03

PRESENT LOCATION OF COLLECTION: Oregon State Museum of Natural History

DESCRIPTION AND CATALOG NUMBERS OF COLLECTED MATERIALS (diagnostic only):

SITE NUMBER:

SMITHSONIAN NUMBER:

ASSOCIATED REPORTS (PAST PROJECTS):

Redmond Caves Archaeological Project-Interim Report Fall 2002: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

Redmond Caves Archaeological Project-Interim Report Spring 2003: report prepared for the BLM and the City of Redmond, compiled and edited by Margaret Helzer, State Museum of Anthropology, University of Oregon.

NAME OF RECORDER(S): Margaret M. Helzer

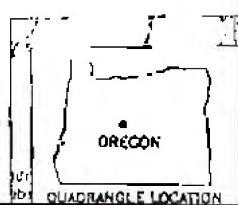
FIELD VISIT DATE: Oct. 19, 2002/ May 10, 2003

NAME OF SITE RECORD AUTHOR(S): Margaret M. Helzer

TITLE: Research Archaeologist

NAME OF AGENCY: State Museum of Anthropology, University of Oregon Field Studies Class

SITE RECORD COMPLETION DATE: 6/15/03

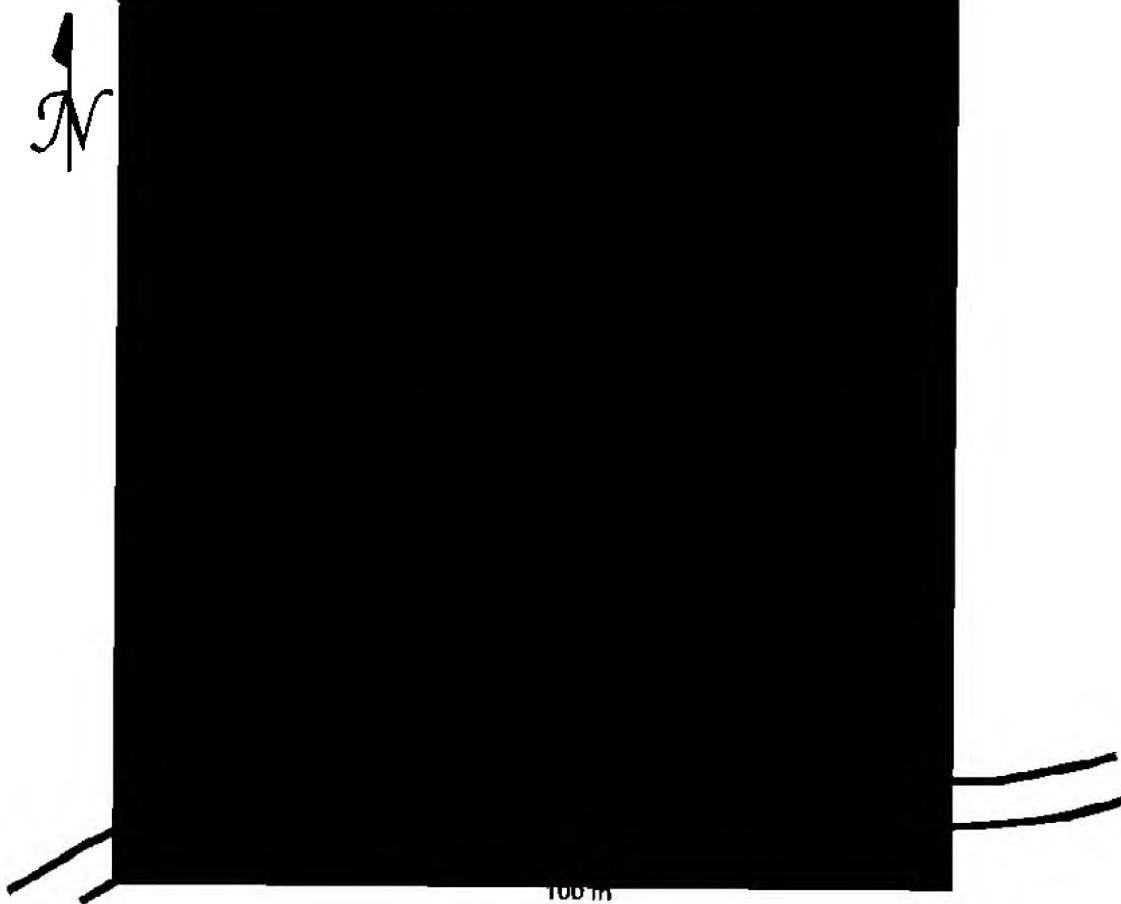


(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

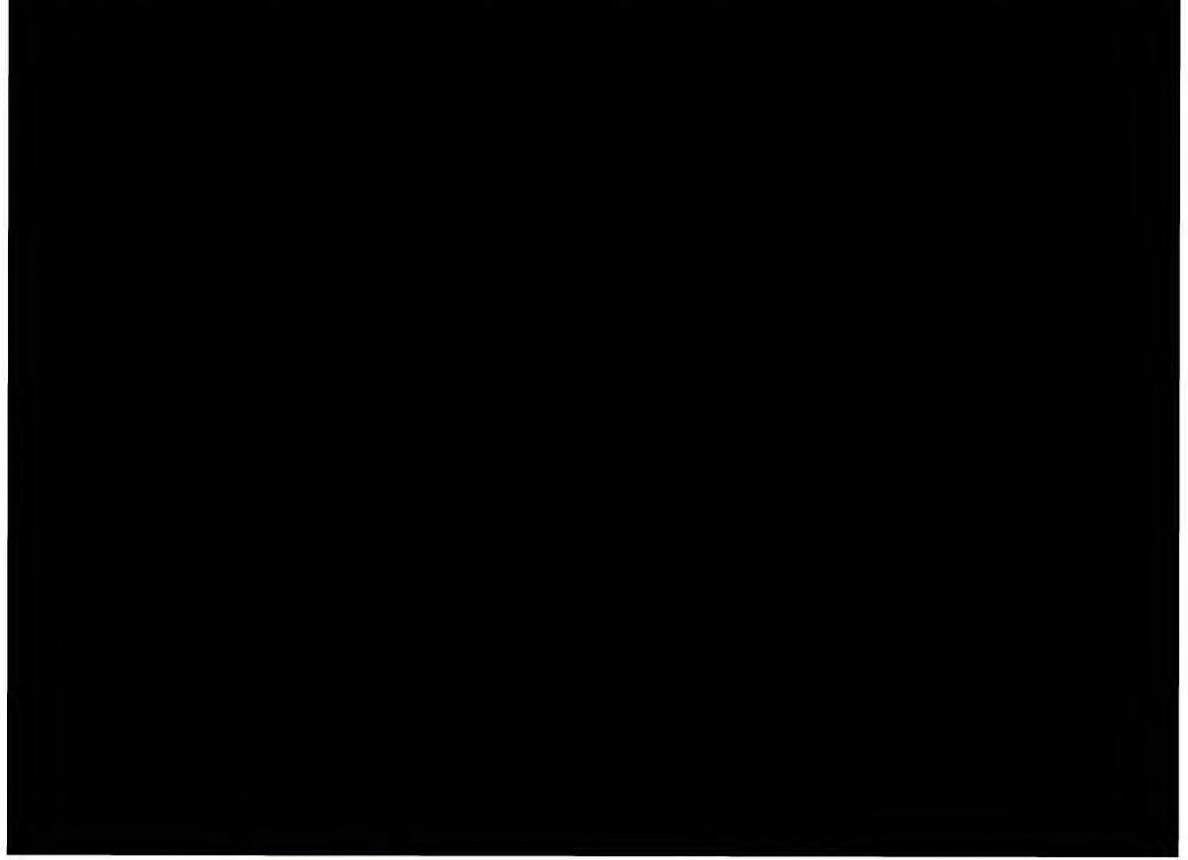
Location of Redmond Caves Project Area.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Sketch map of Redmond Caves parcel, sites not to scale.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Sketch map of [REDACTED] showing location of excavation units and site boundary.
Excavation units not to scale.

Table 1. Site

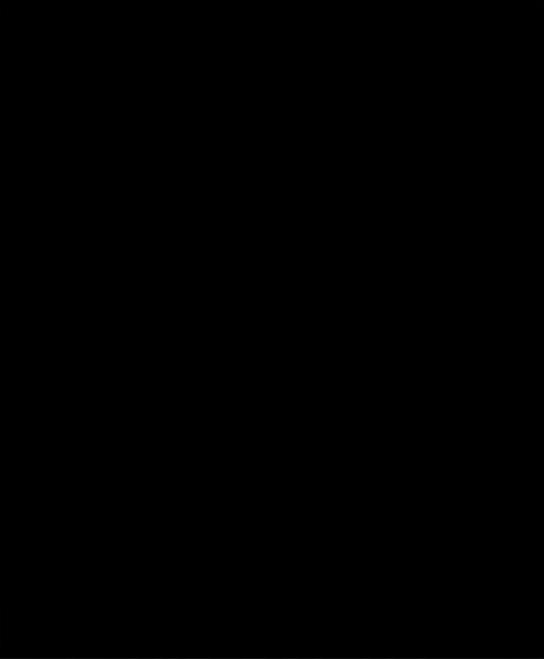
Unit	Level	Depth	
Probe 1	1	0-10 cm	(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
	2	10-20 cm	(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
	3	20-30 cm	(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
Probe 2	1	0-10 cm	
	2	10-20 cm	
	3	20-30 cm	
Probe 3	1	0-10 cm	
	2	10-20 cm	
	3	20-30 cm	
Probe 4	1	0-10 cm	
	2	10-20 cm	
	3	20-30 cm	
	4	30-40 cm	
Probe 5	1	0-10 cm	
	2	10-20 cm	
	3	20-30 cm	
Probe 6	1	0-10 cm	
	2	10-20 cm	
	3	20-30 cm	
Probe 7	1	0-10 cm	
	2	10-20 cm	
	3	20-30 cm	
Probe 8	1	0-10 cm	
	2	10-20 cm	
	3	20-30 cm	
Probe 9	1	0-10 cm	
	2	10-20 cm	
	3	20-30 cm	
Probe 10	1	0-10 cm	
	2	10-20 cm	
	3	20-30 cm	
Probe 11	1	0-10 cm	
	2	10-20 cm	
	3	20-30 cm	

excavation units by level.

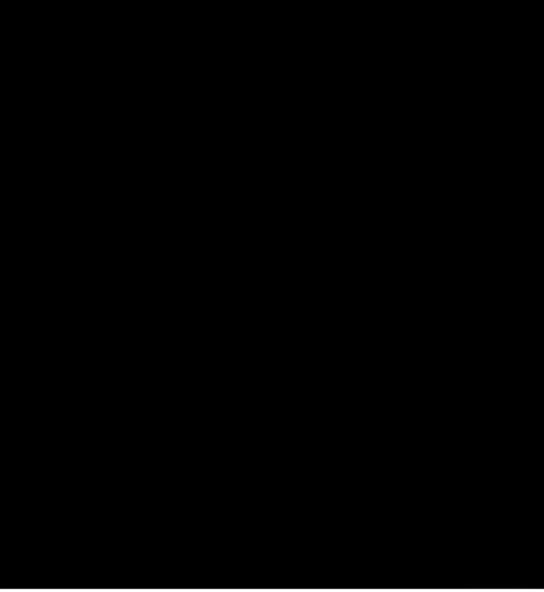
Table 1. (cont.) Site [REDACTED] excavation units by level

Unit	Level	Depth
Probe 12	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 13	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 14	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 15	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 16	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 17	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 18	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 19	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 20	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 21	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 22	1	0-10 cm
	2	10-20 cm
	3	20-30 cm

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Administrative Data

Smithsonian Number:

Alternate ID Numbers:

National Register Status:

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Site Name:

District: Prineville

County: Deschutes

Agency: Bureau of Land Management

Firm: Oregon State Museum of Anthropology

Cultural Period(s) (choose one):

Unknown

Paleo (10,500 BP or earlier)

Archaic (Specific period not established)

Early Archaic (10,500 BP - 7,000 BP)

Middle Archaic (7,000 BP - 2,000 BP)

Late Archaic (2,000 BP - Contact)

Contact Period

Historic

19th Cent.

Early 20th Century (1900-1928)

Depression/WWII (1929-1950)

Recent (post 1950)

Multicomponent (Historic/Prehistoric)

Multicomponent (Prehistoric)

Multicomponent (Historic)

Prehistoric (Undetermined)

Attachments:

Figure 1: Topographic map showing project area

Figure 2: Sketch map showing location of site in relation to Redmond Caves and other associated sites and isolates

Figure 3. Photograph of (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Locational Data

Legal Description (nw ne sw se): (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Township: (b) (3) Cultural Resources

N/S:

Range: (b) (3) Cultural Resources

E/W:

Section: (b) (3) Cultural Resources

1/4: (b) (3) Cultural Resources

1/4: (b) (3) Cultural Resources

1/4: (b) (3) Cultural Resources

DLC:

UTM Zone: (b) (3) Cultural Resources

Easting: (b) (3) Cultural Resources

Northing: (b) (3) Cultural Resources

USGS Quad Series: 7.5

Quad Name: (b) (3) Cultural Resources

Quad Date: 1962

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

GPS? (y/n): yes

UTM Datum: NAD27

Describe access to site:

On the south side of Redmond. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This is (b) (3) Cultural Resources (ARPA, Sec.

of the Redmond Caves parcel.

Environmental Data

Province: High Lava Plains

Drainage: Deschutes

Basin: Deschutes River Basin

Elevation (feet): 3070'

Subbasin: Deschutes

Aspect: north

Depositional Environment

Alluvial

Lacustrine

Coastal

Residual

Colluvial

Rockshelter

Eolian

Spring

Erosional

Other

Glacial

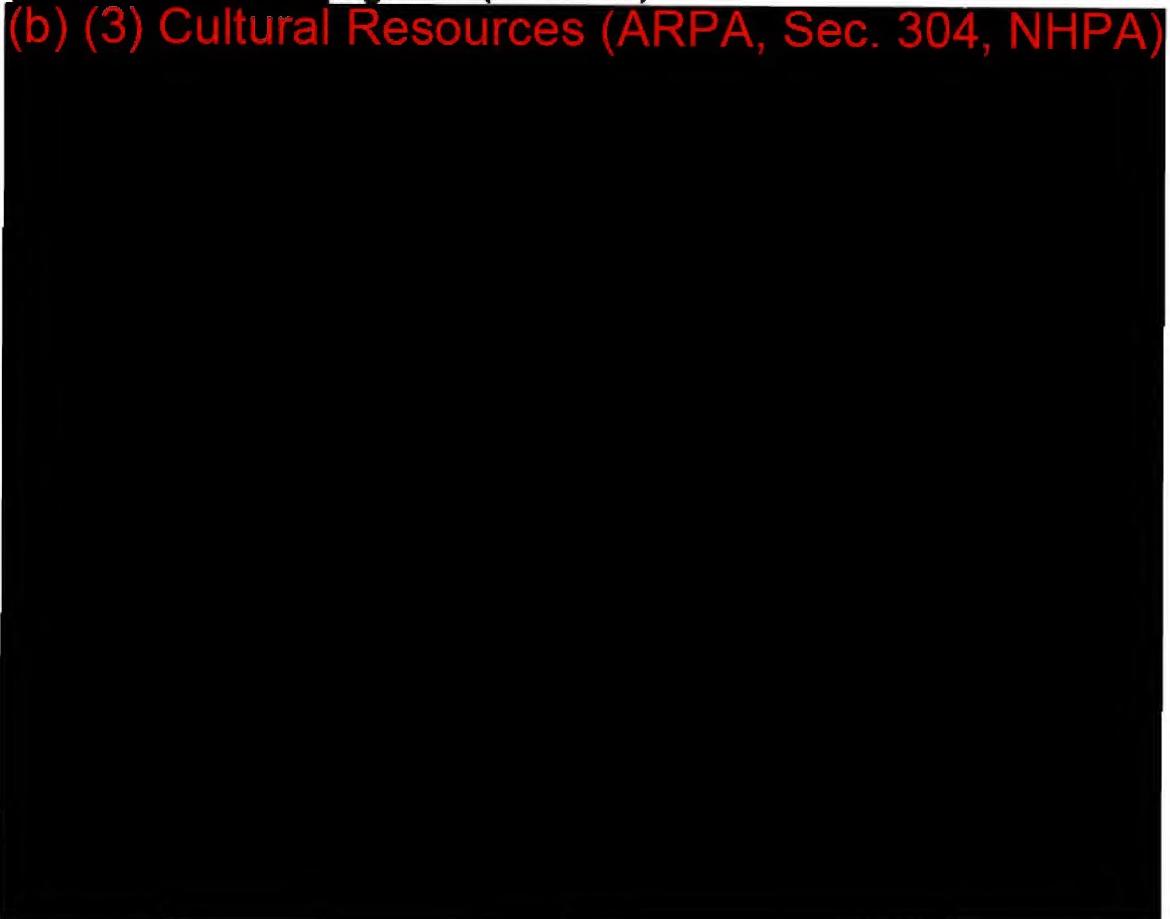
Soil Description:

Volcanic silt and sand; caves (lava tubes) in near vicinity

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation (circle items):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Oregon State Historic Preservation Office | Cultural Resources Reporting Form-4

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Vegetation Description:

On-site vegetation includes sagebrush, scattered juniper, and rabbitbrush. Indian rice grass and Great Basin wild rye in the site vicinity.

WATER SOURCES				FROM DATUM		
Name	Type	Status	Class	Distance	Bearing	
Deschutes River				(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)		

Site Setting (Discuss environmental setting of site relevant to site location, including on-site vegetation, topography, dated landforms and formation processes):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) [REDACTED] is located on a [REDACTED] BLM managed parcel near Redmond Airport. Vegetation at the site includes low sagebrush and rabbitbrush shrubs and scattered junipers. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) [REDACTED] grasses, such as Great Basin Wild Rye and Indian Rice Grass grow in the vicinity. The [REDACTED] parcel contains Redmond Caves [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) [REDACTED]. The general topography at the site is relatively flat (0-5% slope). (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Physical Data

Site Length (feet meters): 6 meters

Site Width (feet meters) : 5 meters

Depth of Cultural Deposits (centimeters): unknown

Site Area (acres, square feet or square meters): 30 square meters

Date(s) of Use (as specific as possible)

Beginning Date:

Ending Date:

How Date(s)

Determined:

Site Visit Information:Visit Date: Site Condition: good
10/19/2002Impact Agent(s):
erosion, possible
artifact collectors

[REDACTED]

materials collected?

yes

Site Conditions (circle):

Unknown - No data or condition unknown

Excellent - Site damage = or < 5% damage.

Good - Site damage > 5% and < 40%.

Fair - Site damage = or > 40% and < 60%.

Poor - Site damage > 60% and < 95%.

Destroyed - Site damage = or > 95%.

Impact Agents (circle):

Agriculture

None

Collected

Animal/burrowing

Other

Trail

Animal/trampling

Partial/Full excavation

Unknown

Bioturbation

Railroad

Utilities

Campground

Recreation: motorized

Vandalism - Altered

Cryoturbation

Recreation: non-

Vandalism - Destroyed

Decay

motorized

Vandalism -

Erosion

Road

Dismantled/Removed/Di

Fire

Theft - Digging and

splaced

Gravity

Removal

Water/Inundated

Logging

Theft - Surface

Weathering

Oregon State Historic Preservation Office | Cultural Resources Reporting Form- 6

The Following Were Observed:(circle and include details or other artifacts in the site description below).

Bone Tool	Shell	Wood Other
Shell Tool	Textiles	Debitage
Fire Cracked Rock	Glass	Ground Stone Tool
Ceramics	Brick	Cobble Tool
Metal Tool	Knapped Stone Tool	Human Skeletal Remain
Metal Other	Faunal Remains	Arrowhead
Wood Tool	Dart	Cane
Floral Remains	Bottles	Other

Site Description (Include discussion of site condition, found artifacts and other relevant info:

Interpretation of each checked Site Function above:

Site Function:

The site is represented by a (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)
(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

will be curated in the Oregon State Museum of Natural History. Overturned rocks at the site may be the result of artifact collectors.

Site function:

Present Use and Expected Impacts:

The site is located (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) of the City of Redmond. The (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) parcel containing the Redmond Caves is easily accessible to the public. People frequently use the area to hike, exercise their pets, and engage in social activities (such as parties). There is graffiti spray-painted on rock outcroppings outside and within the caves, garbage dumps (both industrial and personal), and evidence of homeless camping activities in the vicinity. There is evidence of digging by artifact collectors within the caves.

Site Type(s):

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Oregon State Historic Preservation Office | Cultural Resources Reporting Form- 7

Features:

Administration Bld	Hydraulic mine	Ranger Station
Arrastra	Irrigation	Retort
Bridge	Lens	Road
Cabin	Living Floor	Rock Alignment
Cache Pit	Lodge/Resort	Rock Art
Cadastral Marker	Logging Camp	Rock Cairns
Dam/Intake	Lookout	Root Gathering
Dendroglyphs	Midden	Salt Log
Ditch	Mine/Adit	Sawmill
Driveway	Mining mill	Settling pond
Fence/Corral	Non-residential wood structure	Sign
Flume	Other	Stage Stop
Grazing camp	Other Mining equipment	Stock Driveway
Guard Station	Other Residential structure	Stone Fish Trap
Hard Rock Mine	Oven	Telephone Line
Headgates	Peeled Trees	Traditional Cult
Hearth	Picnic/Community	Trail
Historic Structure	Kitchen/ Other Dev Rec	Trailings
Remain	Facility	Trap set/line
Historic wood - purpose unknown	Pipeline	Trash Dump
Holding pond	Post Mold	Trough
Housepit	Raceways	Wall
Hunters shelter	Railroad Grade/Trestle	Weir
Hydraulic face		

(b) (3) Cultural Resources

Functions:

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Report Information

Report Title: Redmond Caves Archeological Project, Fall 2002

Author(s) name: Margaret M. Helzer, Ph.D.

Primary Report (y/n): Preliminary report for Redmond Caves Archaeological Project for Fall 2002

Publication Year: 2003

Recorder Name (first, middle initial, last) Title

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Research Archaeologist

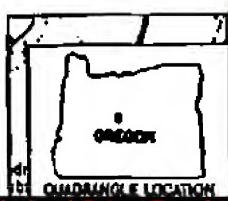
Oregon State Museum of
Anthropology

Date Site Recorded:

10/19/2002

Entered or Modified

University of Oregon
Field Studies Class, Fall
Term 2002



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Figure 1. Location of Redmond Caves Project Area.

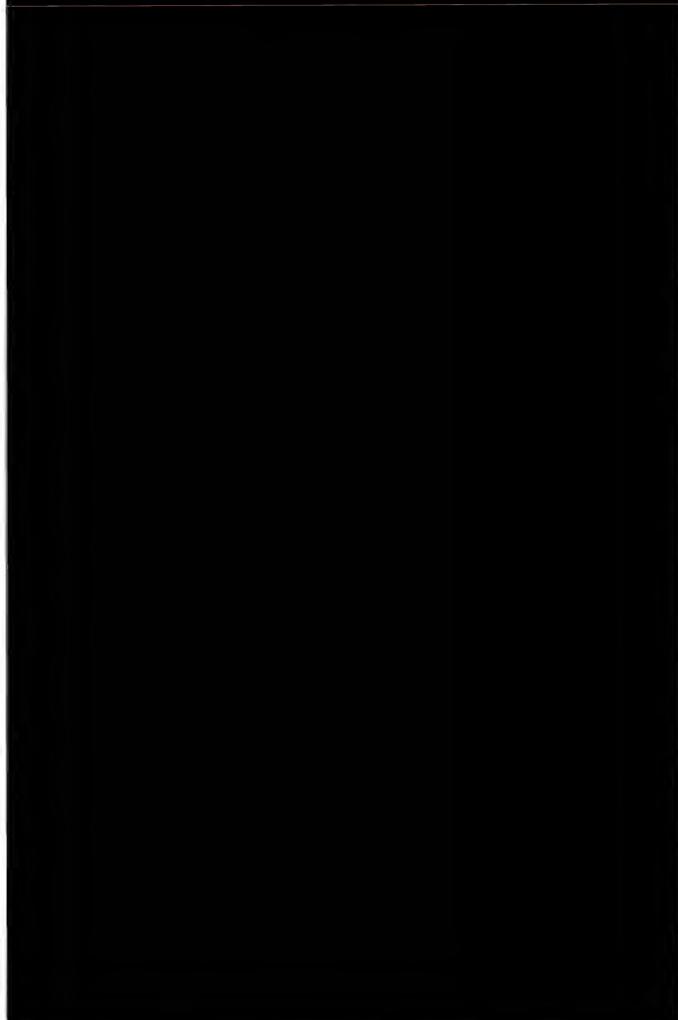
Redmond Caves **BLM Parcel**
Showing location of (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Figure 2. Location of Site (b) (3) Cultural Resources (ARPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

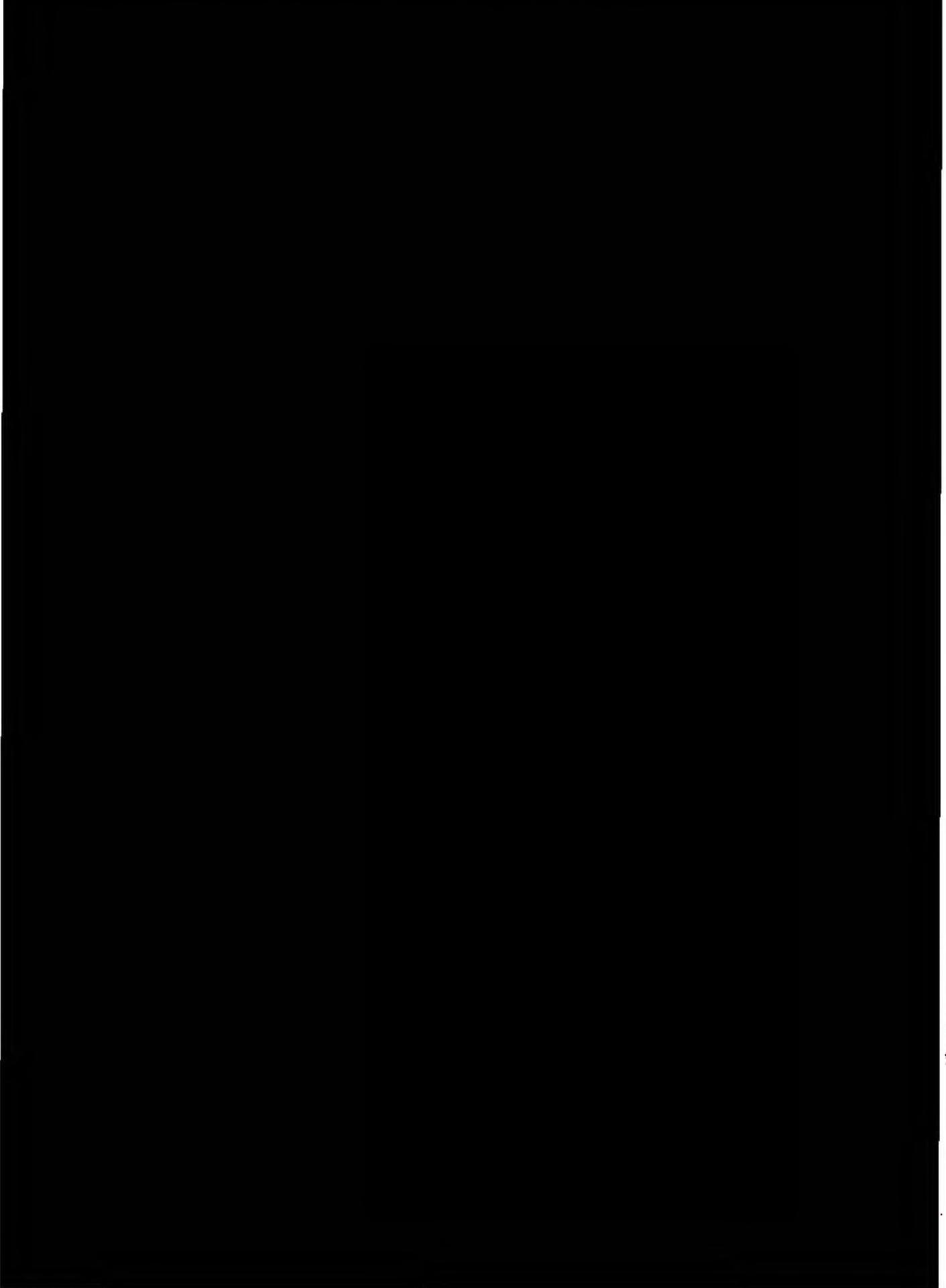


0 1 cm

Figure 3.



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



REDMOND CAVES ARCHAEOLOGICAL RESEARCH PROJECT

Second Interim Report: Spring 2003

Complied and edited

By

Margaret M. Helzer

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**State Museum of Anthropology
University of Oregon**

2003

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CHAPTER 1: INTRODUCTION

This document represents the second interim report of a multi-stage project that involves archaeological investigations of a [REDACTED] parcel of public land administered by the Bureau of Land Management and located [REDACTED] of Redmond, Oregon (Figures 1 and 2). The Bureau of Land Management and the City of Redmond have entered into a collaborative agreement to develop the parcel for public use. Currently undeveloped, the parcel contains [REDACTED] and a network of unmaintained dirt roads for access. [REDACTED] are known to exist both inside and outside of the caves (Fagan 1998, Helzer 2002). The caves, along with the natural vegetation, draw the interest of local hikers, bird watchers, rock collectors, and nature lovers. The natural environment in the area also contains significant evidence for disturbance and vandalism, such as spray paint on rock outcrops and caves walls, garbage dumps, and temporary encampments.

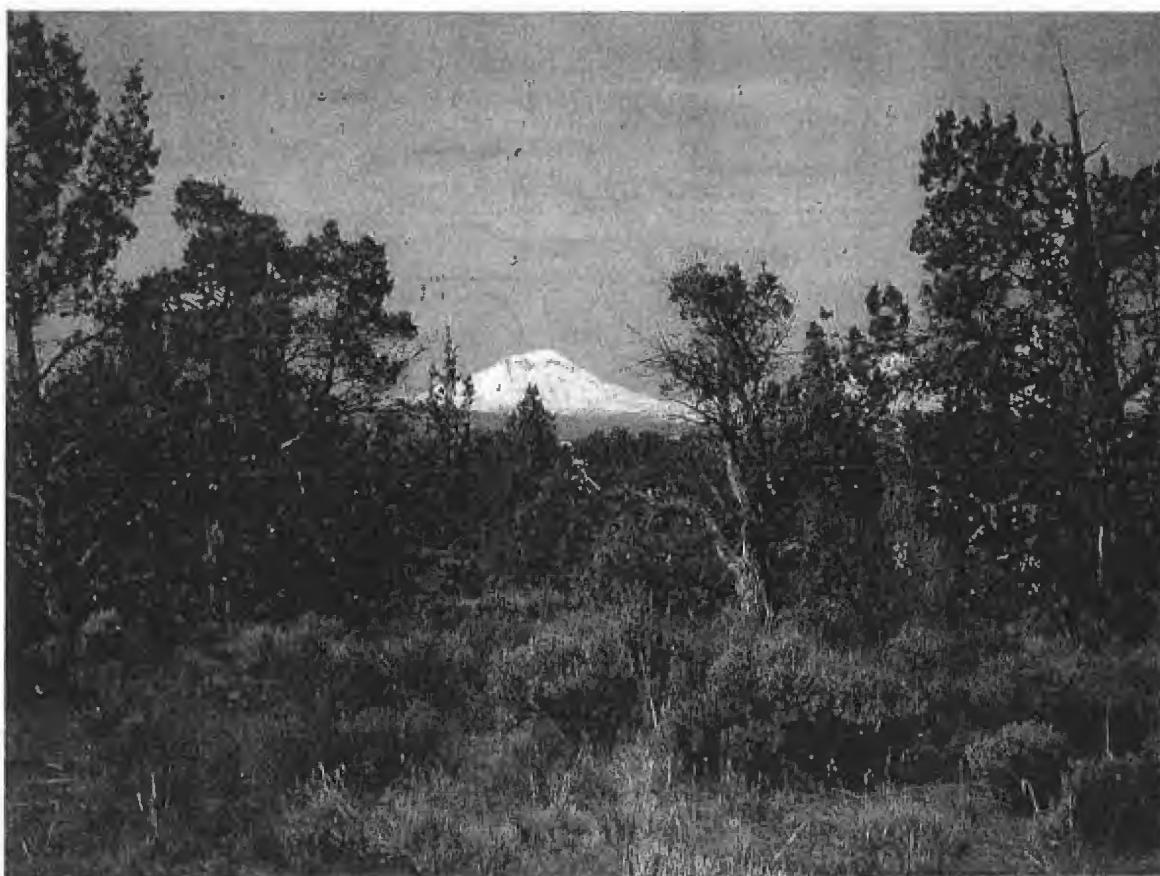
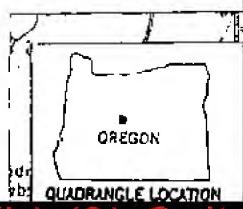


Figure 1. View from Redmond Caves Parcel, showing sagebrush/juniper plant community, with Cascade Mountains in the distance.



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Figure 2. Location of Redmond Caves Project Area.

The proposal offered by the City of Redmond is to convert the property into to a city-managed park with a parking lot, restroom, visitor's center, outdoor classroom, access roads, walkways, and trails (Figure 3). The intent is to develop a natural park-like setting that would encourage safe and educational activities and discourage destructive and illegal ones. The archaeological investigations required under federal laws before the proposed development takes place are being conducted by the University of Oregon State Museum of Anthropology. Previous archaeological studies at the Redmond Caves parcel include excavations in two caves, conducted by Robert Heizer in 1941, and a reconnaissance survey conducted by Archaeological Investigations Northwest (AINW) for the Redmond Caves Master Plan (Fagan 1998).

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

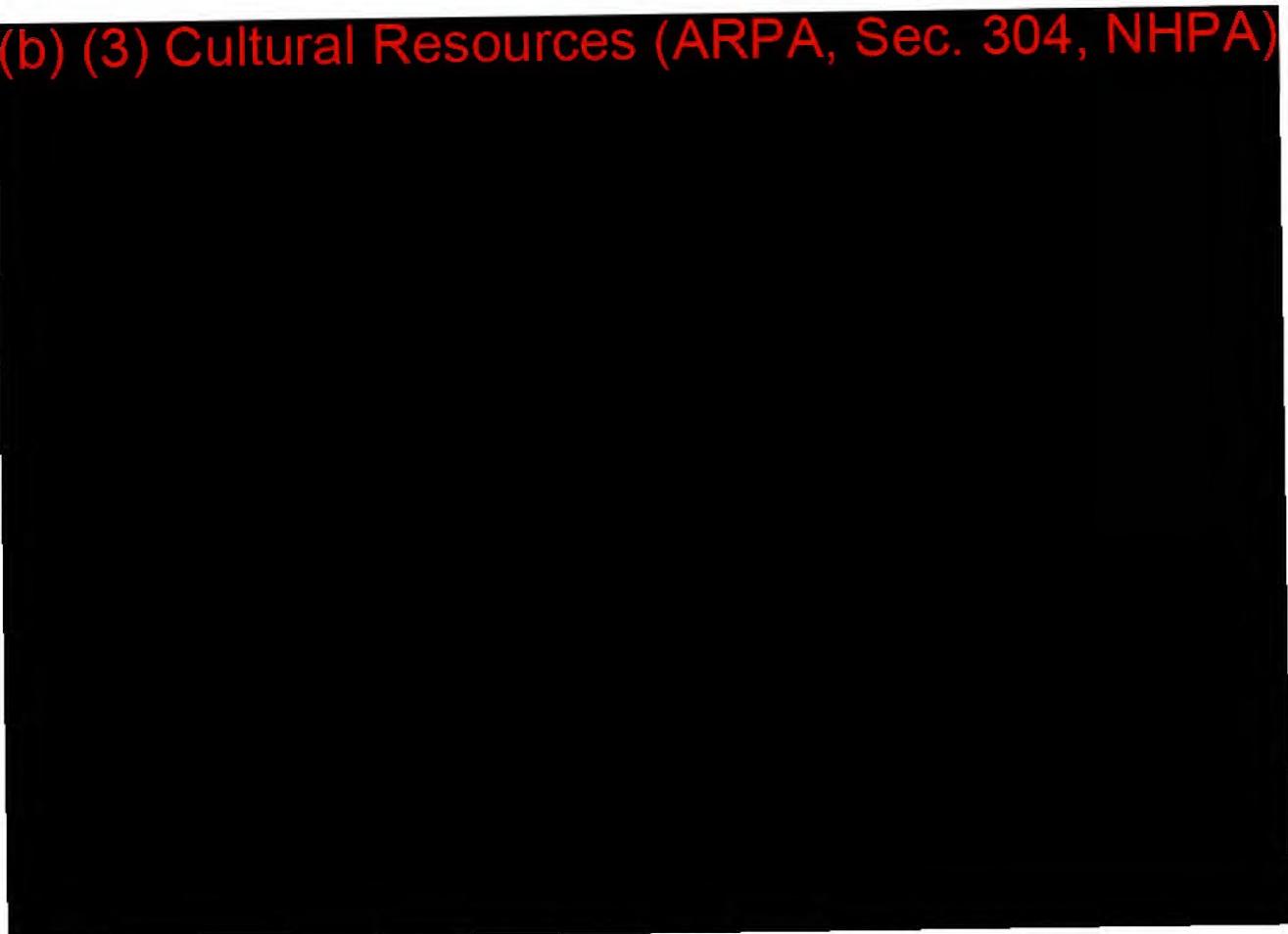
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Figure 3. Proposed development for the Redmond Caves Project (Master Plan 1998)

The Redmond Caves Archaeological Project is conceived of as a multi-year program designed to identify and evaluate the archaeological resources found within the [redacted] parcel. The investigations will be conducted as part of a University of Oregon class entitled "Field Studies in Archaeology" (ANTH 408), which meets fall and spring terms and is offered through the UO Field Studies Center in Bend, Oregon (Figure 4). This work will guide planning, by designating areas where visitor enhancements might be made without damaging cultural resources, by identifying measures for protecting significant resources, and by developing a body of knowledge on the nature of archaeological resources for public interpretation and education.

As the Redmond Caves Archaeological Project will be on-going (i.e., conducted in separate phases over several years), this report provides a summary of the work conducted by the University of Oregon Fieldwork in Archaeology class for Spring term, 2003. Work during this term was focused on subsurface testing of three open sites originally discovered during the previous fall. Special analyses, such as radiocarbon dating and obsidian hydration and sourcing were also conducted and are presented in the current report.

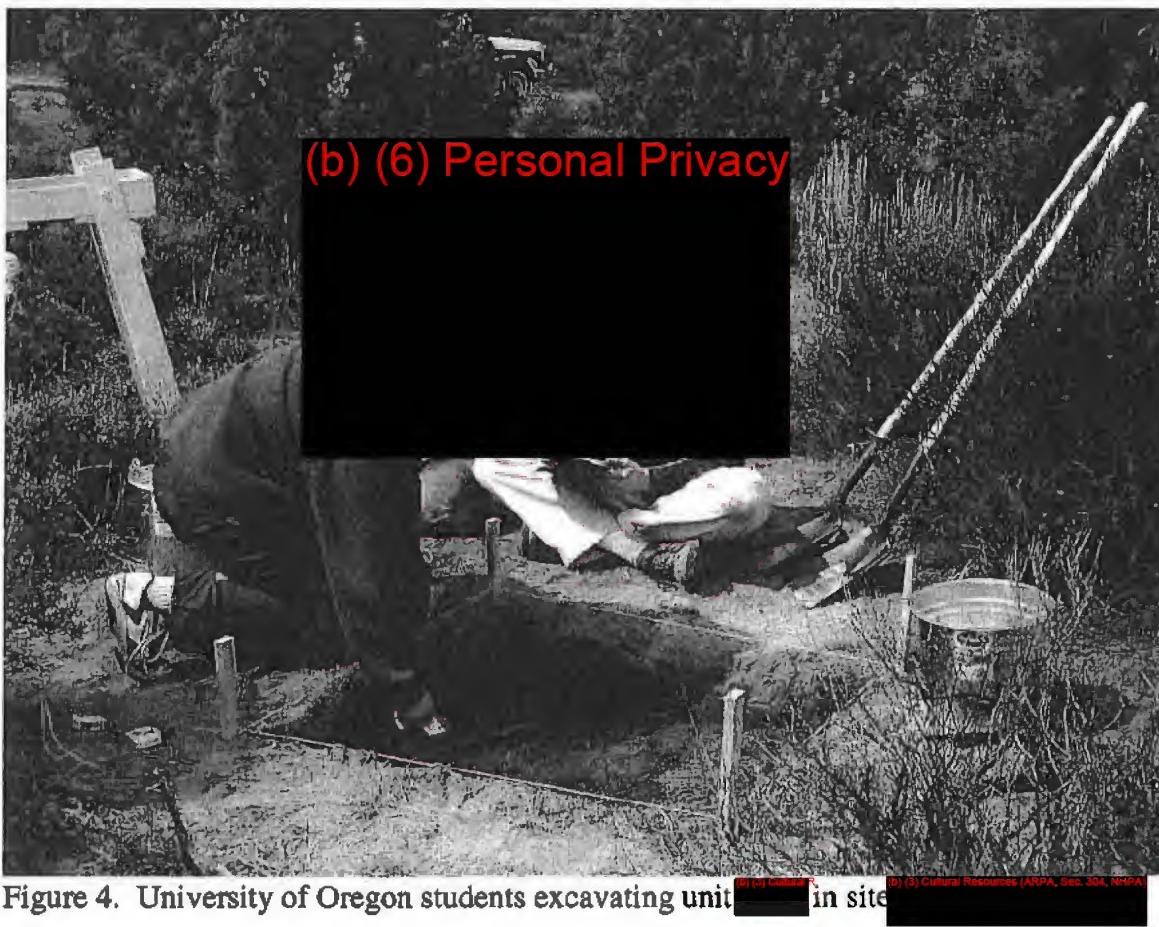


Figure 4. University of Oregon students excavating unit [redacted] in site [redacted] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

CHAPTER 2: BACKGROUND AND PREVIOUS ARCHAEOLOGICAL WORK

The Redmond Caves [redacted] BLM parcel lies within the northwestern area of the High Lava Plains, in close proximity to the Deschutes River Basin and on the southern extension of the Columbia Basin physiographic province (Figure 5). This region also represents a zone of cultural transition between the southern Columbia Plateau and the northern Great Basin. Redmond Caves, and the associated sites outside the caves, are located in the heart of this cultural and geographic transition zone and most likely will reflect these cultural uses and patterns observed from ethnographic and archaeological records.

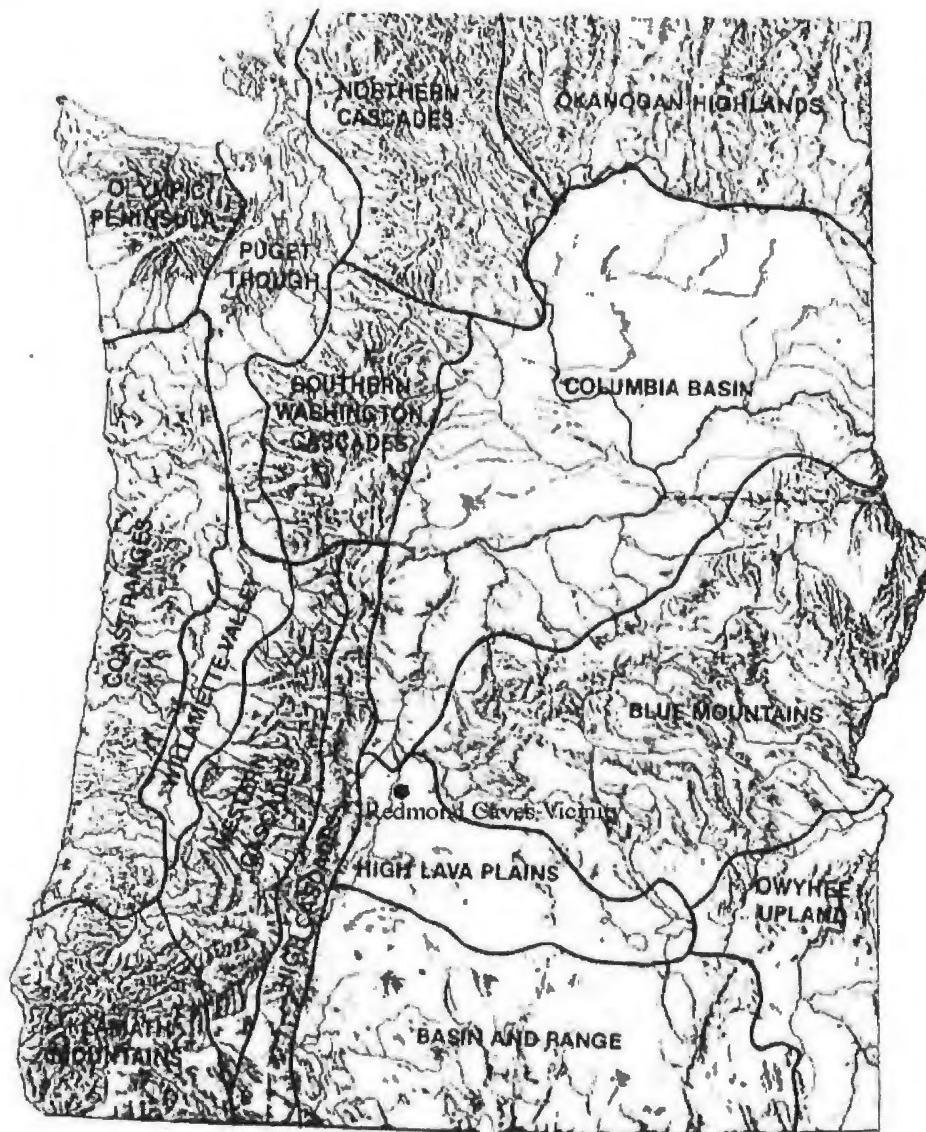


Figure 5. Physiographic and geologic provinces of Oregon and Washington, showing location of Redmond Caves vicinity. (Franklin and Dyrness 1988).

The area can be characterized as a semi-arid zone with a continental temperature regime and it is heavily influenced by the Cascade Range. The plain slopes gradually to the north as part of the Deschutes River drainage and is one of the southern portions of the greater Columbia River Plateau. (Franklin and Dyrness 1988). Most secondary streams in the area are ephemeral because of scant precipitation and porous bedrock. Summers are hot and dry. Average annual precipitation in the area is 12 inches. "The porous volcanic structure of much of the drainage allows precipitation to percolate downward into the substrata and emerges as springs, thus providing a relatively constant source of water, giving the Deschutes a semi-consistent flow of water. (Lebow et al. 1990)" Elevation of the Redmond Caves averages 3,050 ft.

Vegetation of the parcel consists primarily of scattered juniper (*Juniperus occidentalis*), sagebrush (*Artemisia tridentata*), and rabbitbrush (*Chrysothamnus nauseosus*). [redacted] plants such as Great Basin wild rye (*Elymus cinereus*), biscuit root (*Lomatium canbyi*), and sand lily (*Leucocrinum montanum*) were observed in the area this spring (Figures 6-8). (see Helzer 2002 for a more complete discussion of the environment and ethnographic background of the region).

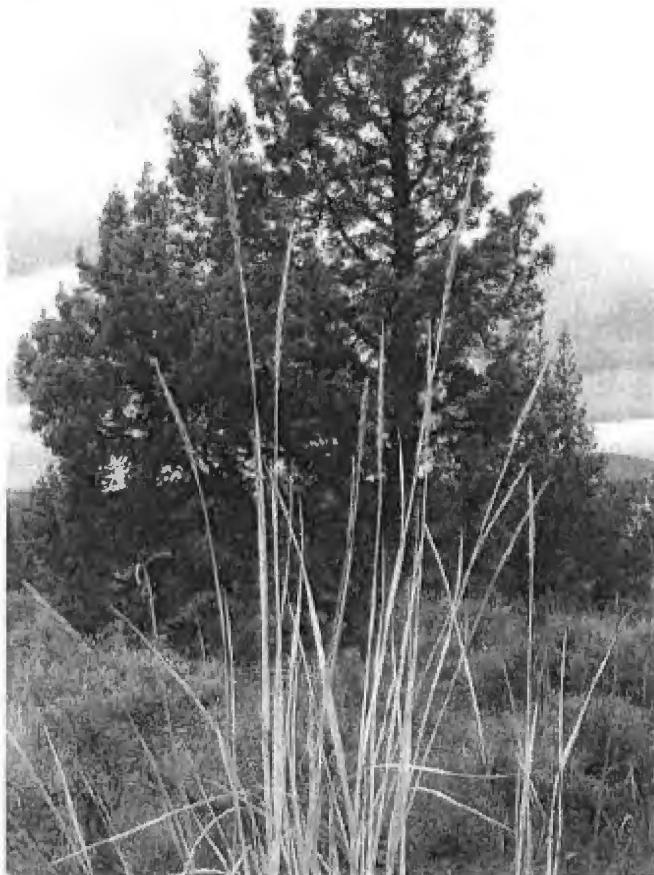


Figure 6. Great Basin wild rye (*Elymus cinereus*) growing near [redacted]

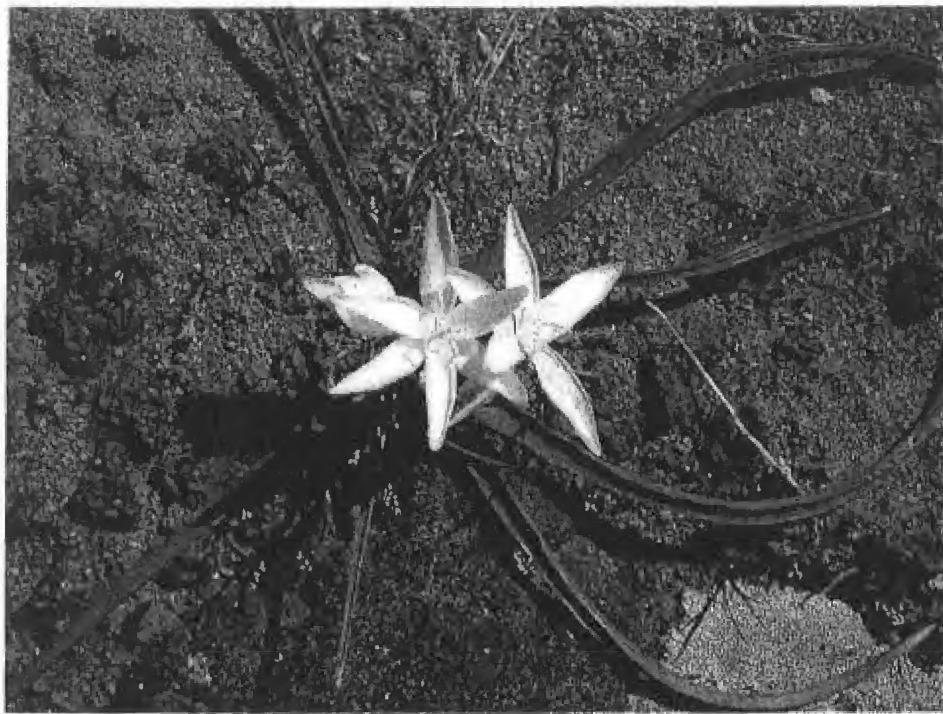


Figure 7. Sand lily (*Leucocrinum montanum*) growing on the Redmond Caves parcel.



Figure 8. Lomatium growing near site [REDACTED]

2002 Archaeological Investigations

The University of Oregon Fieldwork in Archaeology class began investigations at the Redmond Caves parcel in the Fall of 2002. Of particular focus during that term was a pedestrian survey of the [REDACTED] parcel, the mapping of sites and isolated finds, subsurface testing in the area of the proposed parking lot and visitors center, subsurface testing in one site, analysis of collected artifacts, review of archaeological work previously conducted, and analysis of [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) by Robert Heizer in 1941.

Archaeological investigations at the Redmond Caves parcel for Fall Term 2002 included a pedestrian survey (in which sites and isolated finds were identified and mapped), subsurface testing in the proposed parking lot area, subsurface testing in site [REDACTED] and analysis of [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) by Robert Heizer in 1941. The survey was conducted by walking north-south transects at 5 meter intervals. A total of seven sites (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) and seven isolates outside the caves were recorded and mapped (Figure 9). The sites were characterized by [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) recovered from surface collections are represented by both small Late Holocene [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) and Middle Holocene [REDACTED]. The temporary site numbers [REDACTED] through [REDACTED] were given to the sites identified in the fall 2002. Subsequently, trinomial site numbers have been issued by the State Historic Preservation Office in Salem, Oregon. Although there are several references to the temporary site names, the permanent site numbers will be the primary designation used to discuss the sites in this report.

Six 50x50 cm probes were excavated in site [REDACTED] to determine the nature and depth of archaeological deposits at this location. The sediment consisted primarily of loose volcanic ash; no significant stratigraphic changes were observed. Archaeological deposits were concentrated in the top thirty centimeters and consisted mostly of [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) Probe 3 produced a single [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) Analysis of the [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) recovered from [REDACTED] suggests that later stages of [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) occurred at the site.

Twenty 50x50 cm probes were excavated in the location of the proposed parking lot and visitors' center. No archaeological resources were encountered on the surface during survey, and no cultural remains were identified in the subsurface testing.

[REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) from Redmond Caves excavated by Robert Heizer in 1941, which are housed at the Oregon State Museum of Natural History, were analyzed by students during the fall term. The assemblage is small, but is represented by a diverse [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) It includes (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) The [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) are represented by a predominance of Middle Holocene [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) While the diversity of [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) recovered from the [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) by Heizer (1941) point to multi-use activities, further

investigations continue in order to better assess the archaeological components both within the caves and in the sites recorded outside the caves.

Goals for the Spring 2003 Field Season

The University of Oregon Fieldwork in Archaeology class continued work at the Redmond Caves parcel during the spring term, 2003. Fieldwork was conducted on the following Saturdays: April 5th, 12th, 19th, and 26th, May 3rd and 10th. Goals for the spring term included the continued test excavations at [REDACTED] in order to identify site boundaries and structure, testing at other identified sites outside the caves, continued mapping of the parcel, and a focus on obsidian studies and radiocarbon dating of the [REDACTED] recovered by Heizer from [REDACTED] the caves. Additional work was conducted during this time to more systematically map the recent garbage dumps and homeless camps on the parcel.

The six 50x50 cm probes initially excavated at [REDACTED] were considered too few to accurately assess the boundaries of the site. Seven additional probes were dug during the spring term, along with two 1x1 meter test pits.

Site [REDACTED] was chosen for testing this spring for several reasons. Results from [REDACTED] (Appendix B) of the [REDACTED] recovered at [REDACTED] during initial survey in the fall indicated that the [REDACTED] from [REDACTED] Given that a high percentage of archaeological sites that produce [REDACTED] are dated to pre-Mazama times (before ca. 7500 years ago) (Lebow 1995; Skinner 2003), it was important to investigate the nature of cultural deposits at that location. In addition, the loose, sandy soil at the site suggested the presence of deeper deposits than encountered in other areas of the parcel. Two 1x1 meter test probes were excavated in [REDACTED] to assess the nature of a [REDACTED] and to produce adequate samples for [REDACTED]

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

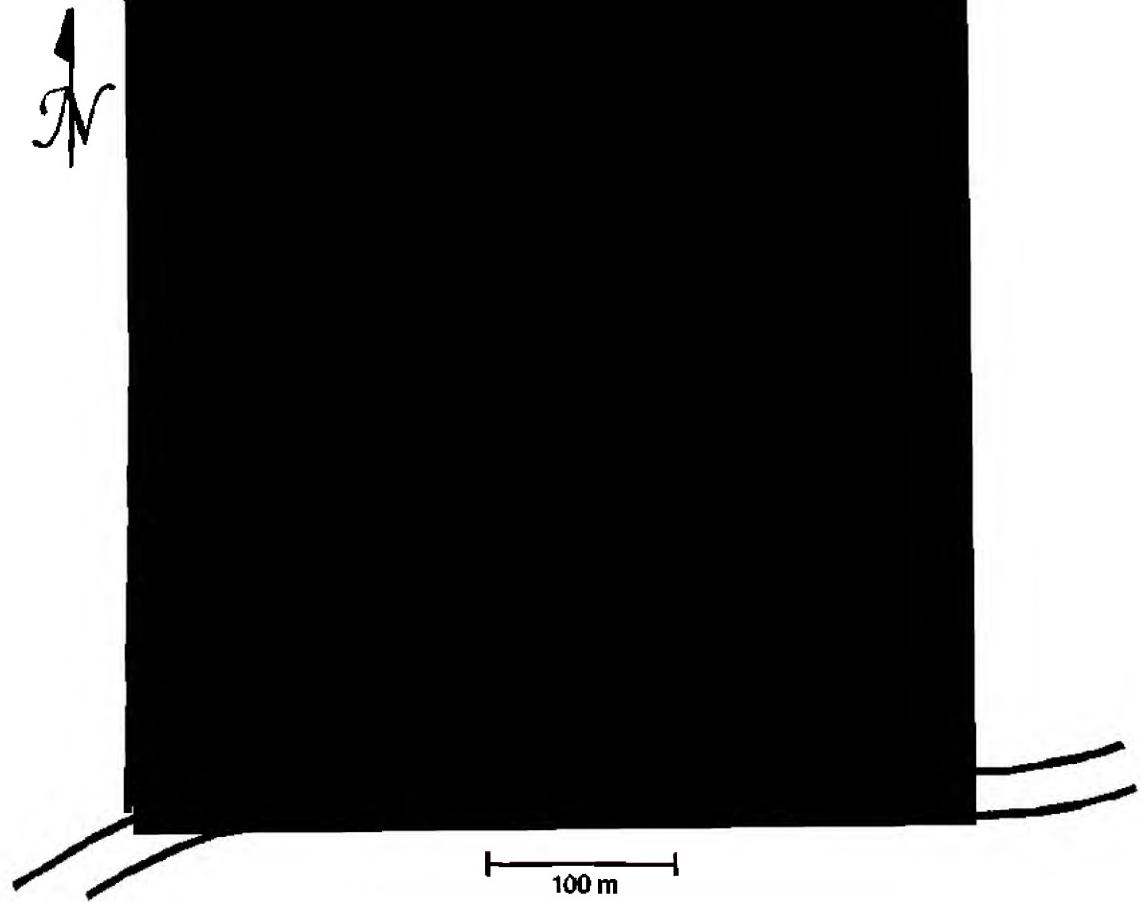


Figure 9. Sketch map of Redmond Caves Parcel; sites and isolates identified fall 2002. Site size not to scale.



Figure 10. Setting up 1x1 meter test pit at [REDACTED]



Figure 11. Setting up Test Pit 2 at [REDACTED]



Figure 12. Excavating Test Pit 1 at [REDACTED]
(b) (6) Cultural Resources (CR)



Figure 13. Measuring depth in Test Pit 2 at [REDACTED]



Figure 14. Screening soil at [REDACTED]

CHAPTER 3: SPRING 2003 INVESTIGATIONS

Test excavations on the Redmond caves parcel were conducted in order to further assess archaeological sites identified by the University of Oregon field class during the fall of 2002. Three sites [REDACTED] and [REDACTED] were subjected to subsurface testing, which included excavation units ranging in size from exploratory shovel probes that measured 30x30x30 cm, 50x50 cm test probes, and 1x1 meter test pits. The purpose of these excavations was to determine the extent of the site dimensions and depth of [REDACTED]. [REDACTED] was collected for submission to [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) [REDACTED] in order to determine [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) [REDACTED] (Appendix B). All excavations were done in 10 cm intervals with the exception of the test pits in [REDACTED] which were excavated in 5 cm levels due to the extremely shallow deposits at this location. Mapping of the [REDACTED] parcel with the use of a laser transit, initially begun in the fall 2002, was continued (Figures 15&16). A topographic map with closely spaced contours will be generated from the data when the entire parcel is mapped. The topographic lines will then be superimposed over the aerial photograph of the parcel (Figure 17) in order to show elevation changes and site locations.



Figure 15. Mapping at [REDACTED]

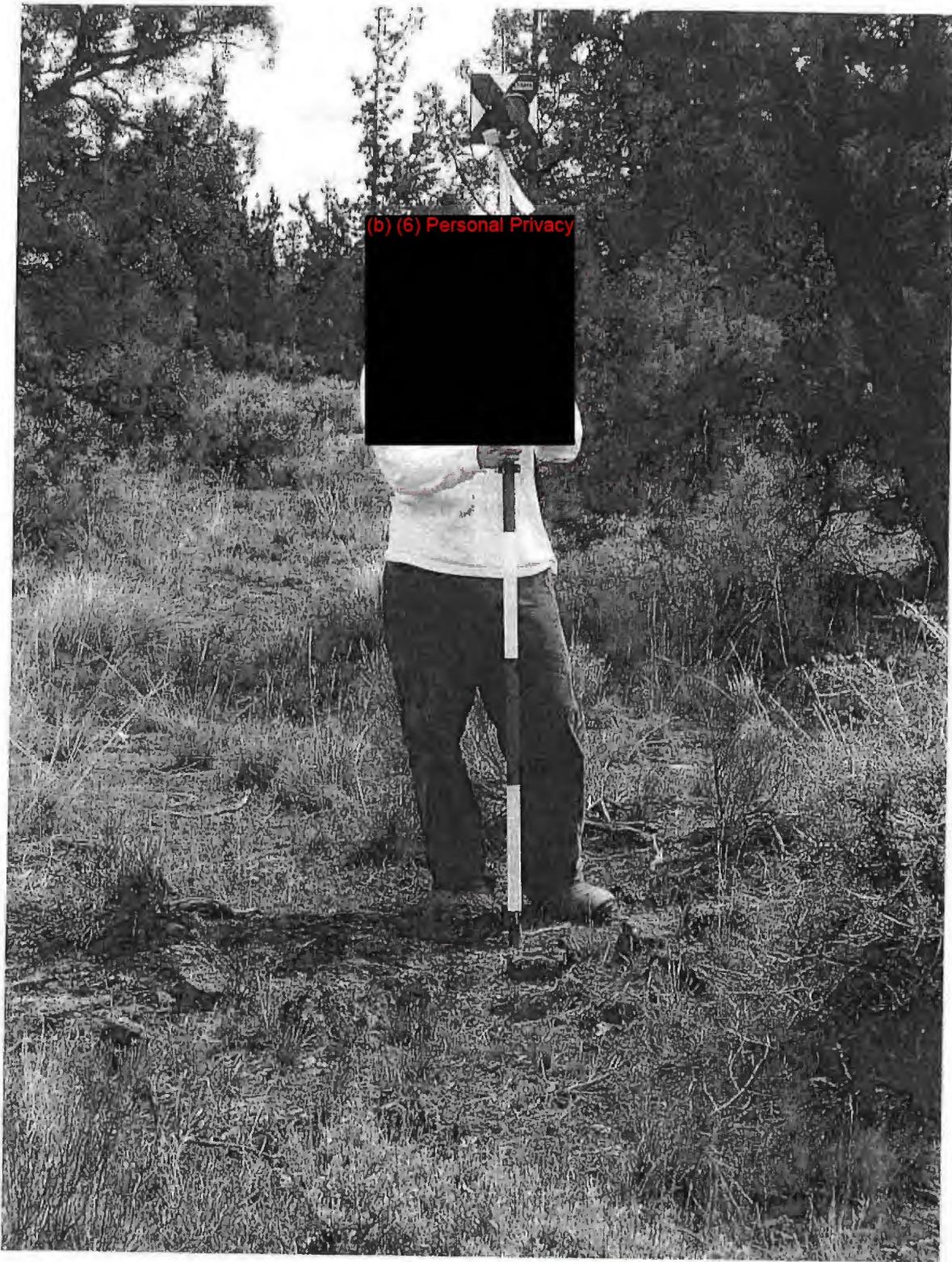


Figure 16. Mapping at [REDACTED]
(b) (5) Cultural Resources (ARPA, Set

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

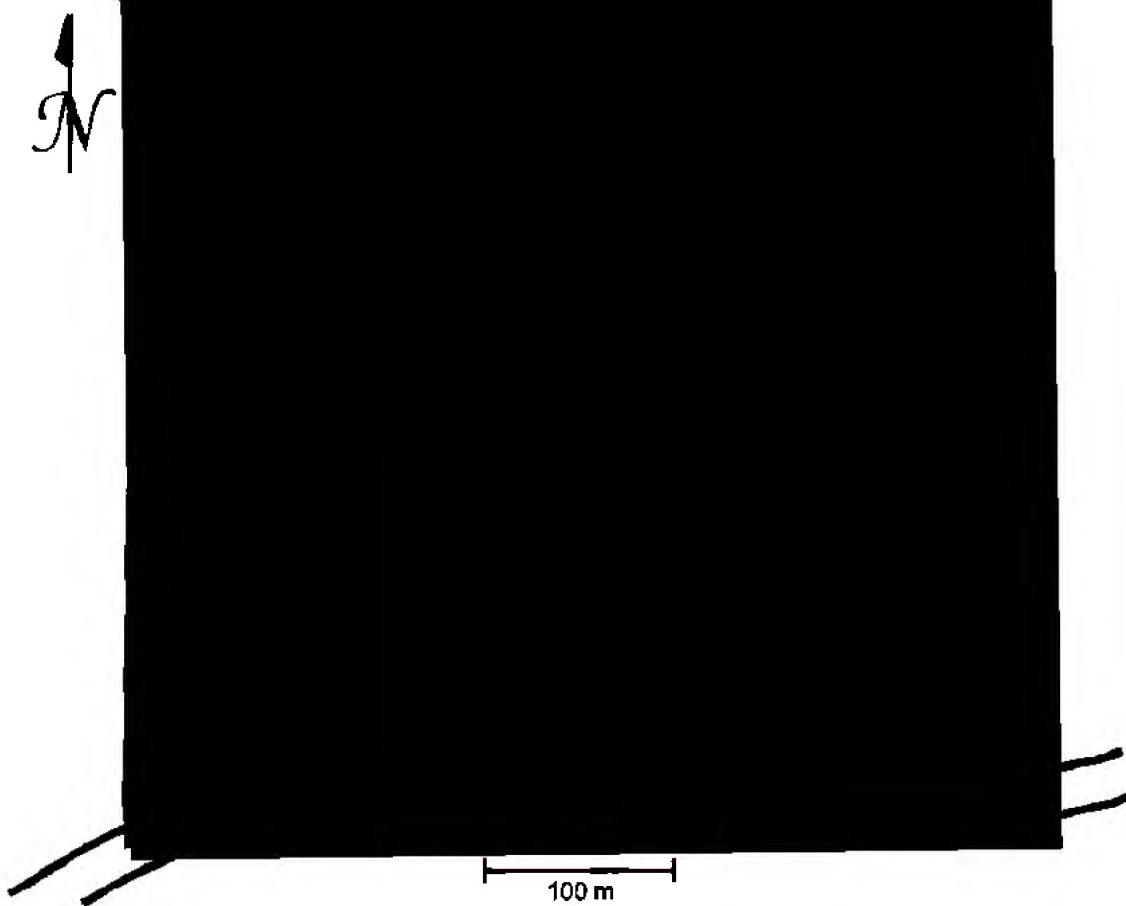


Figure 17. Aerial photograph of Redmond Caves Parcel, with cave and site locations. Sites not to scale.

Site [REDACTED]

[REDACTED] is a [REDACTED] consisting of [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). It was discovered during the survey of the [REDACTED] parcel in the fall, 2002. [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) collected from the surface during initial investigations include [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA).

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) (Helzer 2002). In addition, (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) was mapped on the surface. The site is bordered to the north by a dirt access road, and transected by similar roads near the eastern and southern boundaries (Figure 17).

The site is located approximately 90 meters southwest of [REDACTED]. The dominant vegetation at the site consists of scattered juniper trees, sagebrush, and low growing grasses. Several mature juniper trees are located just outside the eastern and southern

boundaries of the site. Scattered biscuit root and sand lily were noted in close proximity to the site in the spring.

Subsurface testing at [REDACTED] consisted of thirteen 50x50 cm probes and two 1x1 meter test pits. Six probes were excavated in the fall of 2002. The additional seven probes and test pits were excavated in the spring, 2003. The units were placed within the site at areas of high probability for [REDACTED] and around the exterior of the site in order to establish the site boundaries. Probes 1, 8, 2, 7, 3 and 5 were situated at 5 meter intervals along a 45 degree angle through the site, where the presence of [REDACTED] suggested that this was the longest axis of the site. Probes 4, 9, and 11 were placed perpendicular to this axis to help establish the width of the site. Probe 1 and Test Pit 1 mark the east and west boundaries of the site. Test Pit 2 was located adjacent to Probe 3, which was the most productive probe excavated in the fall (Figure 18). The portion of the site that exhibits the highest concentration of [REDACTED] both on the surface and below the surface, is within a 10x12 meter area. Surface rocks and the absence of [REDACTED] on the southeastern boundary of the site led to the decision to cease excavations at this site. Results from the excavated probes and test pits provided adequate information to confidently assess site boundaries and structure.

All probes and test pits were excavated in 10 cm levels and sediment was passed through 1/8-inch screens (Figures 19 and 20). All [REDACTED] material was collected, bagged, and labeled for laboratory analysis. The excavated depth of the excavation units ranged from 10 cm to 50 cm.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Figure 18. Sketch map of [REDACTED] excavation units not to scale.



Figure 19. Passing excavated soil through an 1/8th inch screen.



Figure 20. Screening excavated soil from Test Pit 2 at [REDACTED]

Excavation Results

Results from Probes 1-6 were reported in the first interim report on the Redmond Caves Archaeological Project, Fall 2002, but are included here as well. In addition to the [REDACTED] found in the site during the initial survey, subsurface excavations produced (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). A summary of the [REDACTED] material uncovered in the excavation units is presented in Table 1. Sediment in the deposits consisted primarily of loose, gray sand and silts with 2-5% small angular to sub-angular pebbles. Basalt bedrock ranged from surface outcrops to approximately 60 cm below the surface. Figure 18 presents a map of the site boundaries with deeper, more concentrated [REDACTED] shown to designate the more productive portion of the site.

Probe 1 produced [REDACTED] in level 1. The probe was terminated at a depth of 30 cm because of a basalt rock bottom. In addition to the [REDACTED] and [REDACTED] recovered within the probe.

Probe 2 was terminated at a depth of 30 cm because of a rock bottom. There were [REDACTED] found within the probe. [REDACTED] were recovered in the first level. [REDACTED] were found in level 2, and [REDACTED] was recovered in level 3. The probe was terminated due to a rock floor.

Probe 3 produced the highest concentration of [REDACTED] as well as [REDACTED]. There were [REDACTED] (Figure 21) and [REDACTED] was also recovered in level 5.

Probe 4 generated a total of [REDACTED] came from the top level. The probe was terminated at a depth of 30 cm due to the basalt rock floor.

Probe 5 was excavated to a depth of 30 cm. [REDACTED] were recovered in level 1, and [REDACTED] came from level 2. [REDACTED] was found in the top level. The basalt rock was encountered at 25-30 cm.

Probe 6 produced [REDACTED] in the top 10 cm of deposit. Rock was encountered at 30 cm and the probe was terminated.

The remainder of the excavation units, Probes 7-13 and Test Pits 1&2, were excavated during the spring, 2003. Probe 7 was located five meters southwest of Probe 2, and five meters northeast of Probe 3. A total of [REDACTED] were recovered there, with the highest concentration of [REDACTED] in level 4 (Figure 22). [REDACTED] was also present in the deposit. The probe was terminated in level 6, at 54 cm below the surface, where the excavators encountered bedrock. No [REDACTED] material was recovered from the lowest level.

Ten meters to the northeast of Probe 7 is the location where Probe 8 was dug. Bedrock was encountered in this probe at 30 cm below the surface. Only [REDACTED] of [REDACTED] were recovered. While [REDACTED] were initially mapped in this portion of [REDACTED]

the site in the fall, deposits in this area were found to be shallower and [REDACTED] remains less concentrated than the area around Probes 3 and 7.

Probe 9 was located ten meters south of Probe 7. Depth of deposits there was slightly deeper, reaching 40 cm before bedrock was encountered. A total of [REDACTED] were found in Probe 9 (Figure 23). [REDACTED] were also recovered.

Probe 10, located 10 meters west of Probe 7, [REDACTED] in the upper 10 cm and [REDACTED] below this first level. The probe was terminated at 30 cm due to bedrock. No [REDACTED] remains were obtained from Probes 11 and 12, suggesting that the edge of the site is located approximately 10 meters west and north of the central Probe 2.

Test Pit 1 produced only [REDACTED] and was terminated after level 1 due to the presence of bedrock. Test Pit 2, located adjacent to Probe 3, produced a total of [REDACTED] (Figure 24) and [REDACTED] were also recovered from this test pit. A cluster of angular basaltic rocks contained no evidence of discoloration [REDACTED] and a soil sample processed for macrobotanical remains in the archaeology laboratory at the State Museum of Anthropology produced [REDACTED]. Although no discernable feature [REDACTED] was clearly evident in the unit, the high concentration of [REDACTED] suggest that [REDACTED] were conducted in the area during prehistoric times.

Table 1. Site

Unit	Level	Depth
Probe 1	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm
Probe 2	1	0-10 cm
	2	10-20cm
	3	20-30cm
Probe 3	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm
	5	40-50cm
Probe 4	1	0-10 cm
	2	10-20cm
	3	20-30cm
Probe 5	1	0-10 cm
	2	10-20cm
	3	20-30cm

Table 1 (cont.). Site [REDACTED] excavation units by level.

Unit	Level	Depth
Probe 6	1	0-10 cm
	2	10-20cm
	3	20-30cm
Probe 7	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm
	5	40-50cm
	6	50-60cm
Probe 8	1	0-10 cm
	2	10-20cm
	3	20-30cm
Probe 9	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm
Probe 10	1	0-10 cm
	2	10-20cm
	3	20-30cm
Probe 11	1	0-10 cm
	2	10-20cm
	3	20-30cm
Probe 12	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm
	5	40-50cm
Probe 13	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm
Test Pit 1	1	0-10cm
Test Pit 2	1	0-10 cm
	2	10-20cm
	3	20-30cm
	4	30-40cm
	5	40-50cm

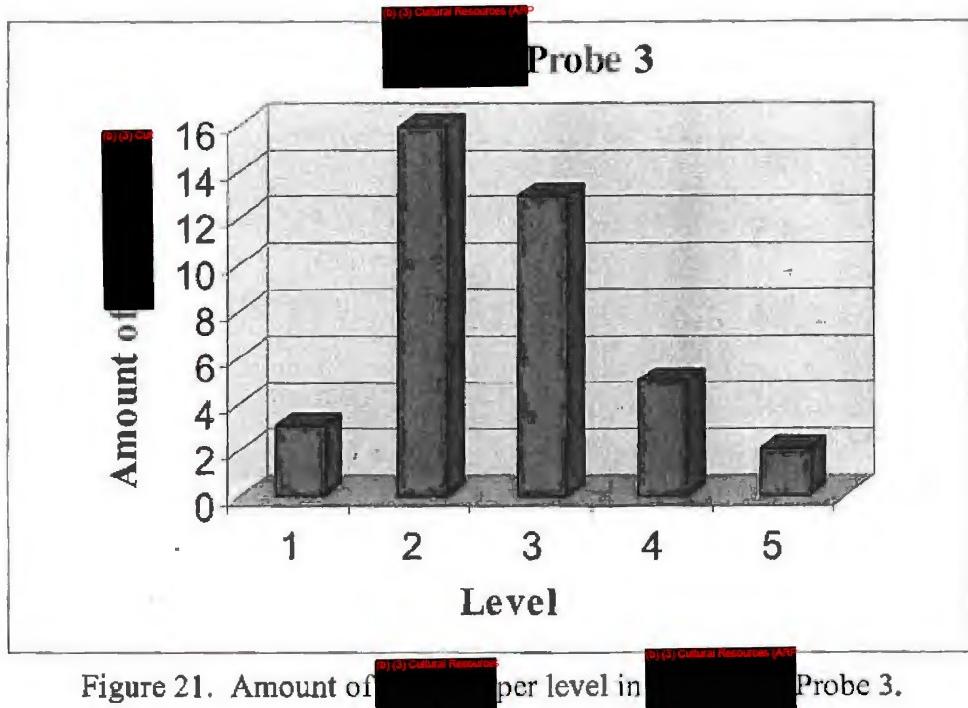


Figure 21. Amount of [REDACTED] per level in [REDACTED] Probe 3.

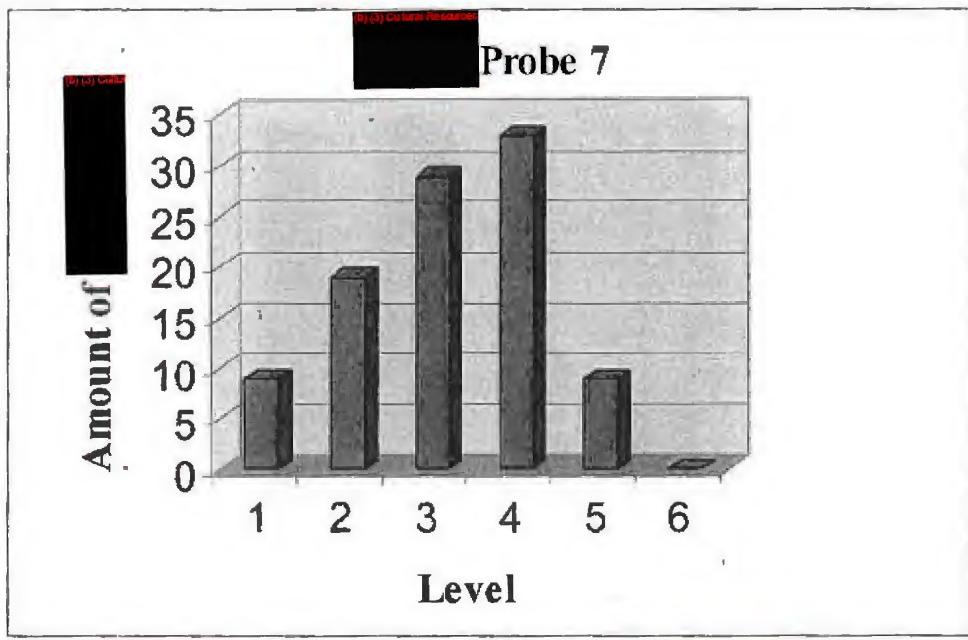


Figure 22. Amount of [REDACTED] per level in [REDACTED] Probe 7.

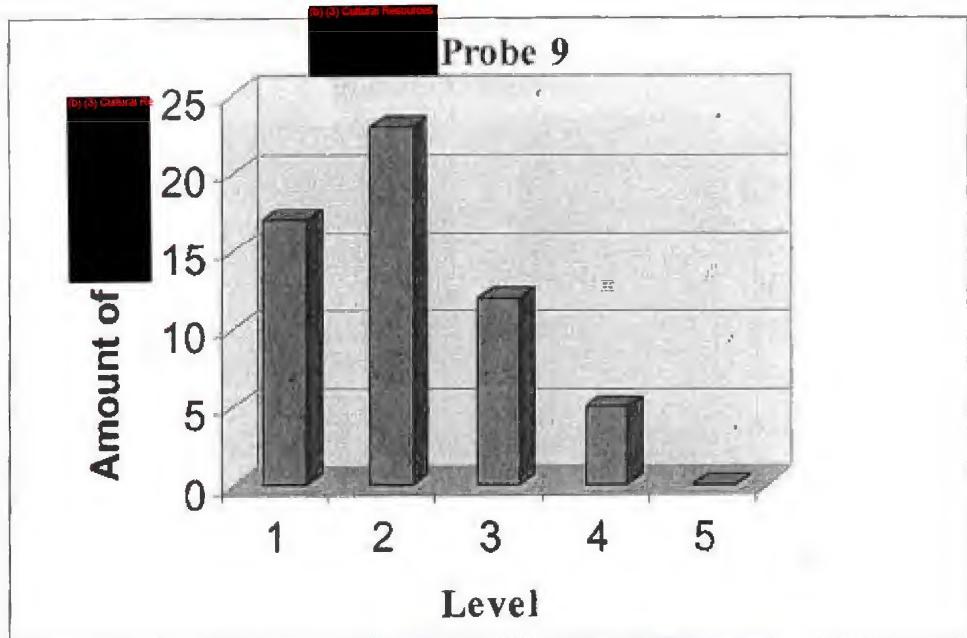


Figure 23. Amount of [REDACTED] per level in [REDACTED] Probe 9.

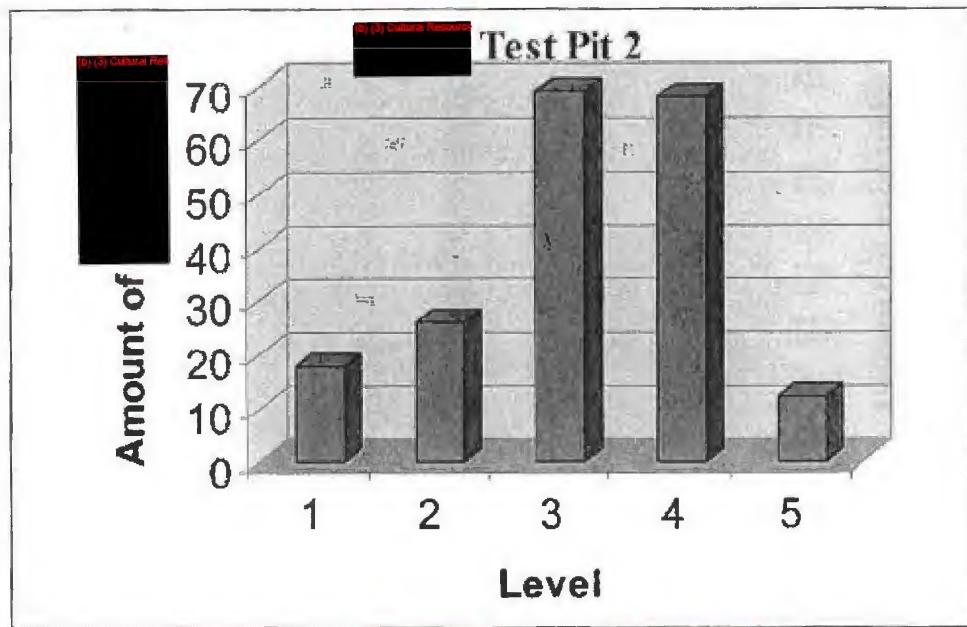


Figure 24. Amount of [REDACTED] per level in [REDACTED] Test Pit 2.

Site [REDACTED]

Site [REDACTED] is located approximately 60 meters east of the [REDACTED] (Figure 17) and encompasses an area of 228 square meters (Figure 25). The site is situated on a rocky rise, approximately 2.5 meters higher in elevation than [REDACTED] and 1 meter higher than the [REDACTED]. Deposits in [REDACTED] are shallow and rocky. Test pits in this site were excavated in 5 cm levels, due to the shallowness of the deposits.

[REDACTED] were counted in a one meter dog leash (the radius of a circle to conduct a concentrated survey in a small area) near the center of the site during the initial survey. [REDACTED] were recorded on the surface in the fall, 2002. Most of the [REDACTED] were found in the center of the site and the concentrations thinned out farther from the center. This site, averaging [REDACTED] per square meter in the center, showed the highest concentration of [REDACTED] when compared to the other Redmond Caves sites.

Two 1x1 meter test pits and one 50x50 cm probe were excavated in [REDACTED] during the spring term 2003 (Figure 26). Test Pits 1 and 2 were located in the area of highest concentration. Due to time limitations, only one probe was excavated at the site; it was located 5 meters to the east of Test Pit 1. Additional probes would help in assessing the actual site boundary through sub-surface analysis.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Figure 25. Sketch map of [REDACTED]

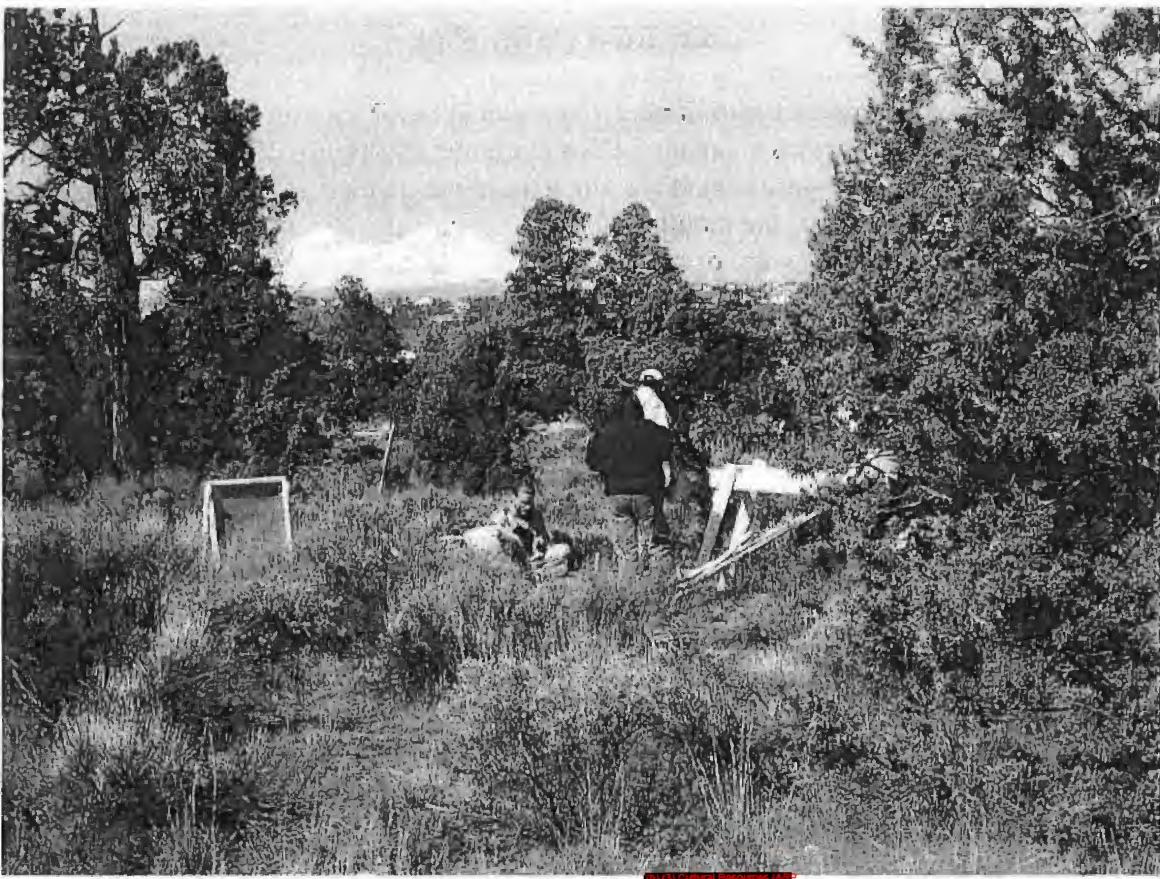


Figure 26. Excavating

Excavation Results

Test Pit 1 produced the highest concentration of [REDACTED] thus far recovered from a 1x1 meter unit excavated for the Redmond Caves Archaeological Project (Table 2; Figure 27). This test pit was located in the area of highest density in [REDACTED] was most abundant in the first level (top 5 cm) of both test pits at this site. Test Pit 1 was excavated to a depth of 35 cm, while Test Pit 2 was terminated at 20 cm due to rock (Figure 28). While a great number of [REDACTED] were recovered in this location, no [REDACTED] was recovered.

A comparison of the [REDACTED] densities in the deposits associated with test pits from [REDACTED] and [REDACTED] are presented in Figure 29. The graph clearly shows that different patterns are exhibited from the two sites. These differences could be the result of several factors, such as age of occupation, varying depositional environments, or differences in topography. As archaeological investigations continue on the Redmond Caves parcel, answers to these and other questions concerning the relationship and association of sites will become more refined.

Table 2. Site [REDACTED] excavation units by level.

Unit	Level	Depth	[REDACTED]
TP-1	1	0-5 cm	[REDACTED]
	2	5-10 cm	[REDACTED]
	3	10-15 cm	[REDACTED]
	4	15-20 cm	[REDACTED]
	5	20-25 cm	[REDACTED]
	6	25-30 cm	[REDACTED]
	7	25-35 cm	[REDACTED]
TP-2	1	0-5 cm	[REDACTED]
	2	5-10 cm	[REDACTED]
	3	10-15 cm	[REDACTED]
	4	15-20 cm	[REDACTED]
Probe 1	1	0-10 cm	[REDACTED]
	2	10-20 cm	[REDACTED]
	3	20-30 cm	[REDACTED]
	4	30-40 cm	[REDACTED]

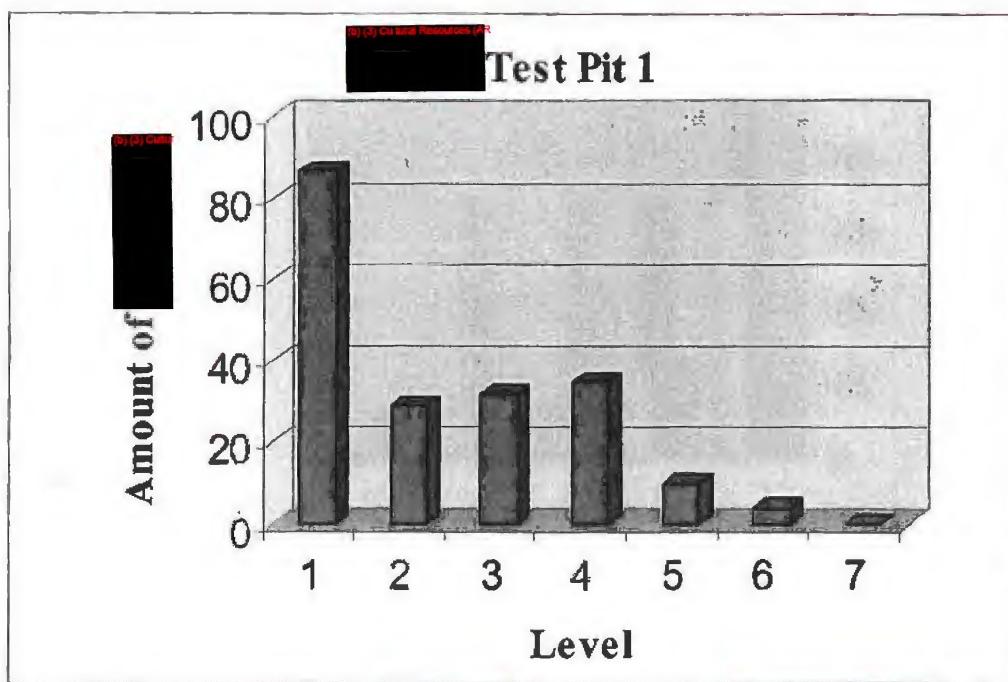


Figure 27. Amount of [REDACTED] by 5 cm level in [REDACTED]

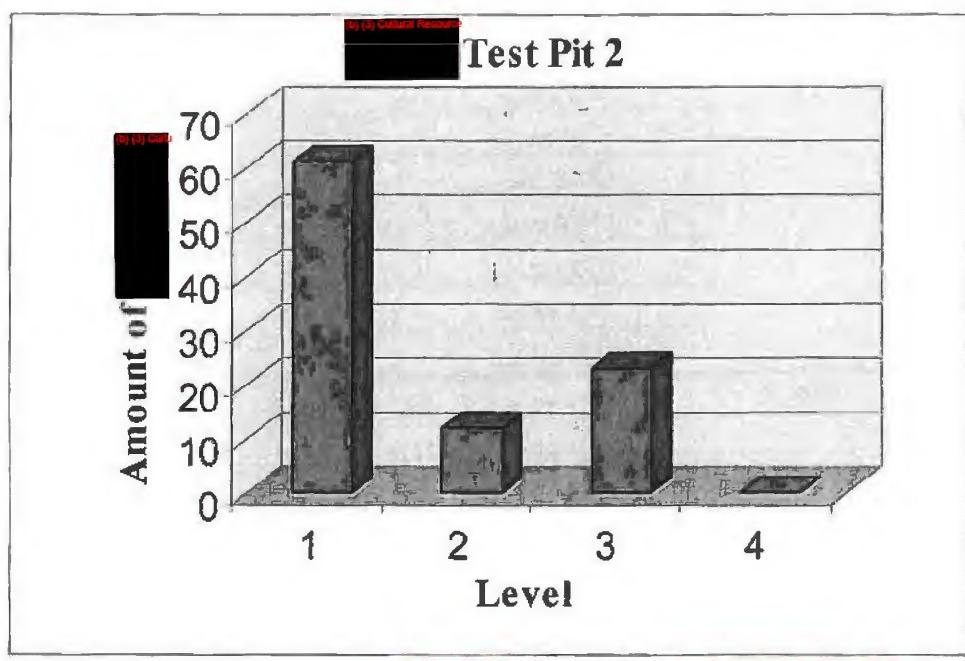


Figure 28. Amount of [REDACTED] per level in [REDACTED]

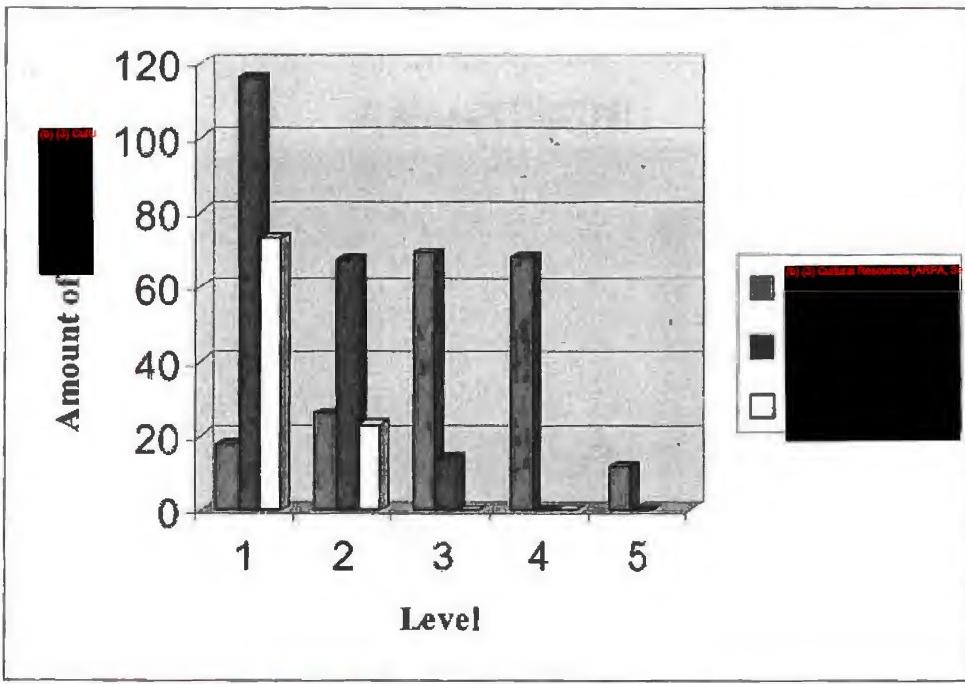


Figure 29. Comparison of [REDACTED] per level from test pits in [REDACTED]

Site [REDACTED] was chosen for testing during the spring 2003 for several reasons. Discovered and recorded in the fall, 2002, this site contained a [REDACTED]

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) which appeared to be Middle Holocene in age (Figure 30).

Results from [REDACTED] indicated that the [REDACTED] was made from [REDACTED]

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) This was significant because it was the only specimen from the Redmond Caves Archaeological Project initially sourced to [REDACTED]

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) The majority of the samples initially analyzed were sourced to [REDACTED] and it has been documented (Pettigrew and Hodges 1995) that [REDACTED] is often associated with pre-Mazama, or Early Holocene archaeological sites. The soil deposits at [REDACTED] also appeared to be deeper than other sites on the parcel. While the [REDACTED] on the surface was sparse, it was possible that sub-surface deposits would produce higher concentrations of [REDACTED]

Upon visiting [REDACTED] on April 12, 2003, students from the University of Oregon field class recovered a [REDACTED] at the site (Figure 31). This [REDACTED] resembles Late Holocene [REDACTED] recovered from [REDACTED] by Robert Heizer in 1941. Students also encountered new roads in the area, one which was not present in the fall and which transected the site. The emerging road appears to be the result of vehicles moving around the parcel and forging new routes. A recent dump of yard debris was also noted.

In order to gain a better understanding of the [REDACTED] deposits at [REDACTED] and to establish with more accuracy the site boundaries, 30x30x30 cm exploratory probes were excavated in the site (Figure 32). Probes were initially spaced at 10 meters apart, but additional probes at 5 meter intervals were excavated near probes that produced

[REDACTED] positive results. A total of 22 probes was excavated at [REDACTED] with limited results. While [REDACTED] were present on the surface (as previously discussed), the subsurface component was ephemeral (Table 3). Probe 4 produced the highest number of [REDACTED]. The small size and limited number of [REDACTED] recovered from the site made it impossible to conduct further [REDACTED] on material from [REDACTED]. No further testing was conducted at the site.

Figure 30. [REDACTED]

Figure 31. [REDACTED]

Table 3. Site

excavation units by level.

(b) (3) Cultural Resources (ARI'A, Sec. 304, NHPA)

Unit	Level	Depth
Probe 1	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 2	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 3	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 4	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
	4	30-40 cm
Probe 5	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 6	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 7	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 8	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 9	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 10	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 11	1	0-10 cm
	2	10-20 cm
	3	20-30 cm

Table 3. (cont.) Site [REDACTED] excavation units by level

Unit	Level	Depth
Probe 12	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 13	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 14	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 15	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 16	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 17	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 18	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 19	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 20	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 21	1	0-10 cm
	2	10-20 cm
	3	20-30 cm
Probe 22	1	0-10 cm
	2	10-20 cm
	3	20-30 cm

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

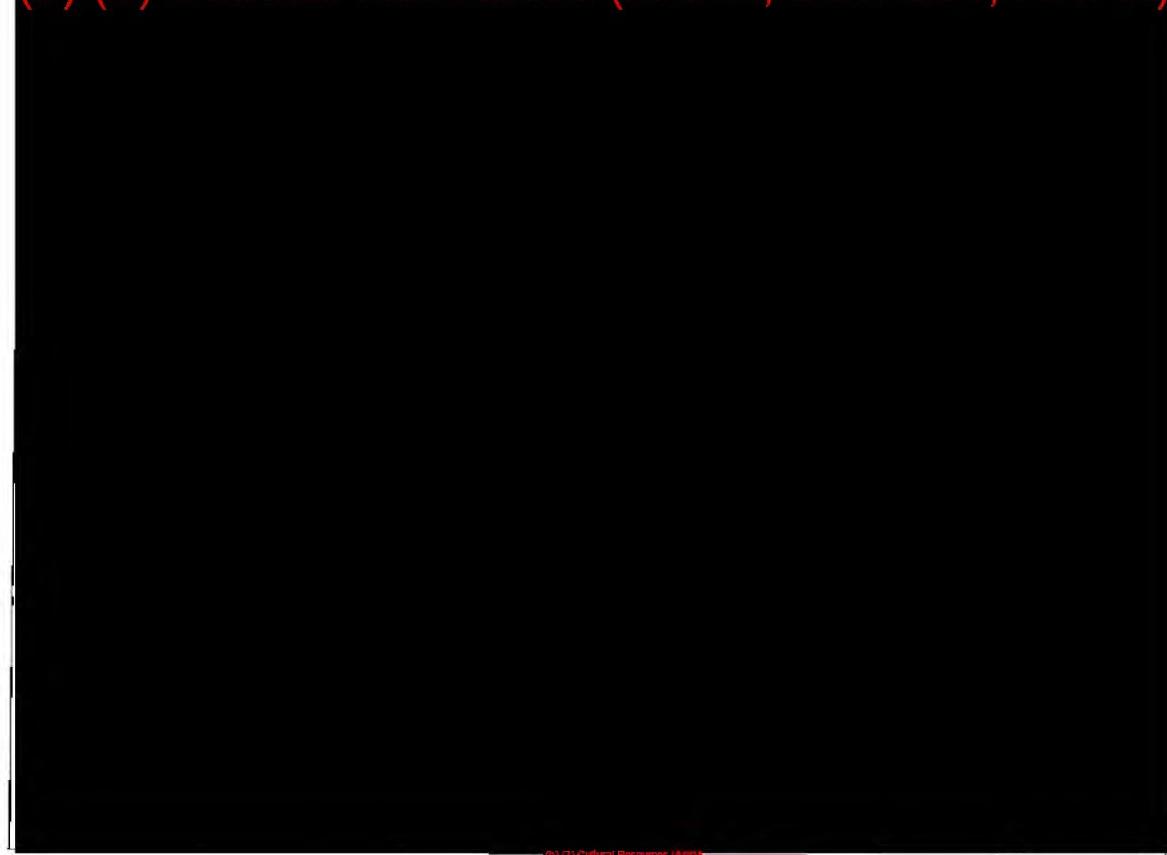


Figure 32. Sketch map of [REDACTED] Probes not to scale.

CHAPTER 4: SPECIAL STUDIES

(b) (3) Cultural Resources (ARPA) from the Redmond Caves Archaeological Project have been subjected to a variety of analytical studies in order to enhance our understanding of the (b) (3) Cultural Resources (ARPA) deposits in the area. These studies include obsidian sourcing, obsidian hydration, debitage analysis, radiocarbon dating, and macrobotanical analysis. An overview of these special studies and the current results are presented below.

Obsidian Sourcing

Obsidian, a common toolstone utilized by indigenous people in the west, has the potential to provide archaeologists with valuable insights regarding procurement strategies, migration, and trade. The analytical technique of X-ray fluorescence measures the trace element characteristics in obsidian specimens, making it possible to identify the parent source from which the stone originated. Skinner (2002) notes that while most obsidian sources are quite homogenous, the composition of trace elements in obsidian varies from source to source. Therefore, if the trace elements of a geologic source are known, obsidian artifacts recovered from archaeological sites can be correlated with known sources.

(b) (3) Cultural Resources (ARPA) obsidian specimens were selected for X-ray fluorescence analysis (XRF) and sent to Northwest Research Laboratory in Corvallis, Oregon. The samples were sent off for analysis in two separate shipments. Initially, (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) collected by Heizer in 1941 from (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) were analyzed, along with (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) found (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) during the survey conducted in the fall, 2002. The second shipment of (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) sent off for obsidian studies included (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) collected during excavations at (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). In all, chemical characterization was conducted on (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) separate obsidian specimens from the Redmond Caves project (Table 4).

Six geochemical source groups, five of which were correlated with known geologic sources, were identified among the (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) specimens from the Redmond Caves site (Table 5). The geologic sources include (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) See Figure 33 for a map of the location of these sources in relation to the Redmond Caves. The most predominant geologic source for (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) from the Redmond Caves Archaeological Project is represented by 54% of the specimens. The second most predominant source is (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) at 26%. The remaining (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) sources range between 2% and 8% of the sample.

Table 4. [REDACTED] submitted to Northwest Obsidian Laboratory for analysis.

Specimen No.	Description	Comments	Source	Rim Results
Site: [REDACTED]				
1-11932 A	[REDACTED]	Heizer Collection	[REDACTED]	NM±NM
1-11932 B	[REDACTED]	Heizer Collection	[REDACTED]	2.2± 0.0
1-11932 C	[REDACTED]	Heizer Collection	[REDACTED]	2.1± 0.1
1-11918 D	[REDACTED]	Heizer Collection	[REDACTED]	2.6± 0.1
1-11932 E	[REDACTED]	Heizer Collection	[REDACTED]	3.2± 0.1
1-11922 F	[REDACTED]	Heizer Collection	[REDACTED]	2.0± 0.1
1-11939 G	[REDACTED]	Heizer Collection	[REDACTED]	2.4± 0.1
1-11939 H	[REDACTED]	Heizer Collection	[REDACTED]	2.1± 0.0
I-11925 I	[REDACTED]	Heizer Collection	[REDACTED]	2.6± 0.1
1-11932 J	[REDACTED]	Heizer Collection	[REDACTED]	2.2± 0.1
I-11925 K	[REDACTED]	Heizer Collection	[REDACTED]	2.1± 0.1
1-11939 L	[REDACTED]	Heizer Collection	[REDACTED]	2.0± 0.1
1-11918 M	[REDACTED]	Heizer Collection	[REDACTED]	2.0± 0.1
1-11939 N	[REDACTED]	Heizer Collection	[REDACTED]	2.1± 0.1
1-11939 O	[REDACTED]	Heizer Collection	[REDACTED]	2.0± 0.1
1-11938 P	[REDACTED]	Heizer Collection	[REDACTED]	2.1± 0.1
1-11923 Q	[REDACTED]	Heizer Collection	[REDACTED]	2.4± 0.1
1-11924 R	[REDACTED]	Heizer Collection	[REDACTED]	3.1± 0.1
Site: [REDACTED]				
1495-RC1-S-1	[REDACTED]	Surface	[REDACTED]	NM± NM
Site: [REDACTED]				
1495-RC7-S-1	[REDACTED]	Surface	[REDACTED]	NM± NM
Isolates				
1495-RC-ISO3	[REDACTED]	Surface	[REDACTED]	NM± NM
1495-RC-ISO4	[REDACTED]	Surface	[REDACTED]	NM± NM
1495-RC-ISO5	[REDACTED]	Surface	[REDACTED]	NM± NM
Site: [REDACTED]				
1495-RC1-2-1-1 A	[REDACTED]	Test pit 2, 0-10 cm	[REDACTED]	NM± NM
1495-RC1-2-1-1 B	[REDACTED]	Test pit 2, 0-10 cm	[REDACTED]	NM± NM
1495-RC1-2-2-1 A	[REDACTED]	Test pit 2, 10-20 cm	[REDACTED]	NM± NM
1495-RC1-2-2-1 B	[REDACTED]	Test pit 2, 10-20 cm	[REDACTED]	4.8± 0.1

Table 4 (cont). submitted to Northwest Obsidian Laboratory for analysis.

Specimen No.	Description	Comments	Source	Rim Results
1495-RC1-2-3-1 A		Test pit 2, 20-30 cm	(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)	3.1± 0.1
1495-RC1-2-3-1 B		Test pit 2, 20-30 cm		3.2± 0.1
1495-RC1-2-3-1 C		Test pit 2, 20-30 cm		5.4± 0.1
1495-RC1-2-3-1 D		Test pit 2, 20-30 cm		4.9± 0.1
1495-RC1-2-3-1 E		Test pit 2, 20-30 cm		NM± NM
1495-RC1-2-3-1 F		Test pit 2, 20-30 cm		5.1± 0.1
1495-RC1-2-3-1 G		Test pit 2, 20-30 cm		5.4± 0.1
1495-RC1-2-3-1 H		Test pit 2, 20-30 cm		5.1± 0.1
1495-RC1-2-4-2 A		Test pit 2, 30-40 cm		5.2± 0.1
1495-RC1-2-4-2 B		Test pit 2, 30-40 cm		5.0± 0.1
1495-RC1-2-5-1		Test pit 2, 30-40 cm		5.0± 0.1
Site:				
1495-RC4-1-1-1 A		Test pit 1, 0-5 cm	(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)	NM± NM
1495-RC4-1-1-1 B		Test pit 1, 0-5 cm		NM± NM
1495-RC4-1-1-1 C		Test pit 1, 0-5 cm		NM± NM
1495-RC4-1-2-1 A		Test pit 1, 5-10 cm		NM± NM
1495-RC4-1-2-1 B		Test pit 1, 5-10 cm		NM± NM
1495-RC4-1-3-1 A		Test pit 1, 0-15 cm		NM± NM
1495-RC4-1-3-1 B		Test pit 1, 0-15 cm		NM± NM
1495-RC4-1-4-1 A		Test pit 1, 15-20 cm		NM± NM
1495-RC4-1-4-1 B		Test pit 1, 15-20 cm		NM± NM
1495-RC4-2-1-1 A		Test pit 2, 0-5 cm		NM± NM
1495-RC4-2-1-1 B		Test pit 2, 0-5 cm		NM± NM
1495-RC4-2-1-1 C		Test pit 2, 0-5 cm		NM± NM
1495-RC4-2-2-1 A		Test pit 2, 5-10 cm		NM± NM
1495-RC4-2-2-1 B		Test pit 2, 5-10 cm		NM± NM
1495-RC4-2-3-1		Test pit 2, 10-15 cm		5.3± 0.1

Table 5. List of geochemical sources identified by site at Redmond Caves parcel.

Geologic Source	(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)	Total
Total		

These figures change significantly when the results from formed tools are viewed separately from debitage. It is typical to find a higher degree of source material among formed tools than among waste flakes recovered from the same site or site complex (Connolly and Byram 2001). Formed tools represent more diversity of source material because they are often carried in a tool kit away from the original source whereas tools manufactured on site tend to reflect material from locally available toolstone. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) were represented in the [REDACTED] and only [REDACTED] were represented from the [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) (Figure 34 and 35).

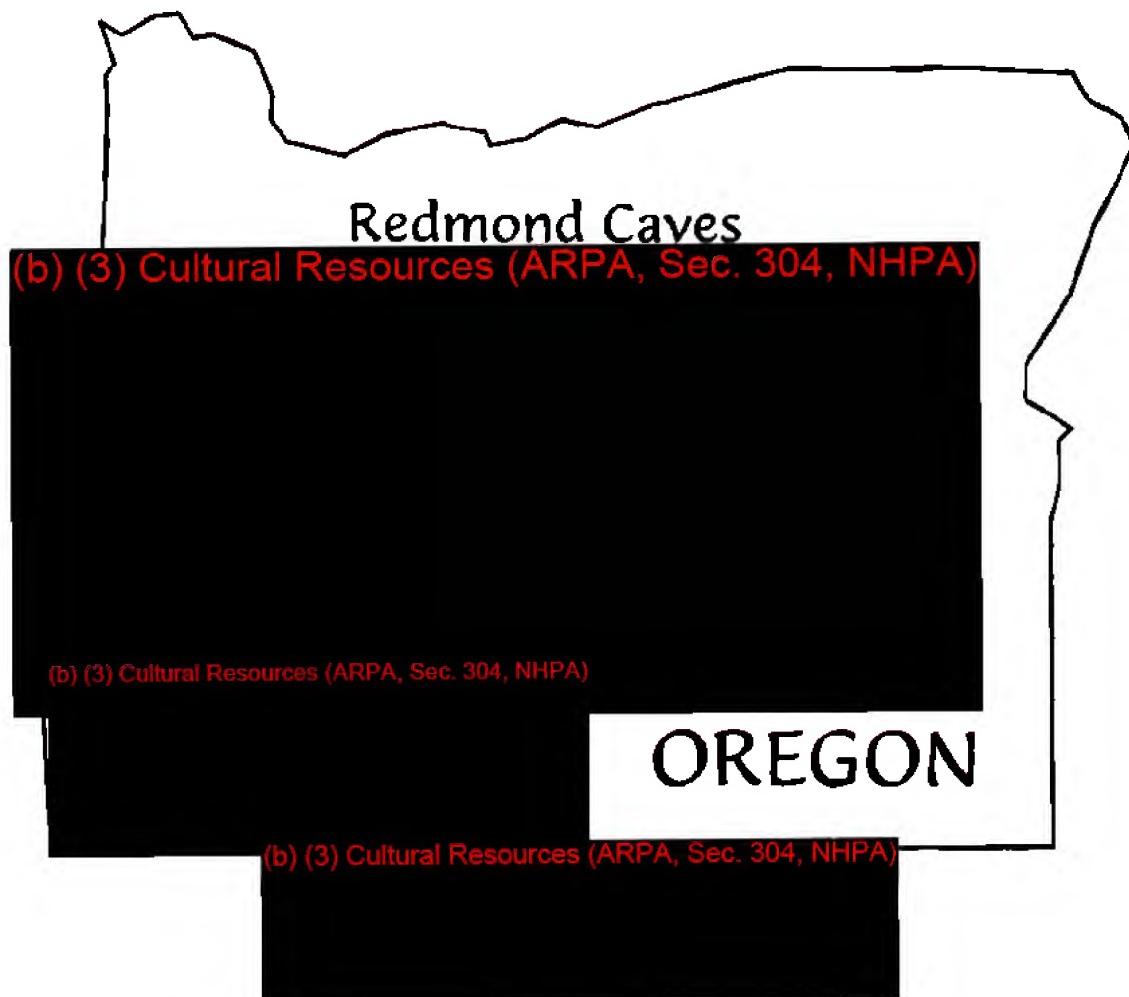


Figure 33. Location of geochemical sources in relation to vicinity of Redmond Caves (Skinner 2003, Appendix B).

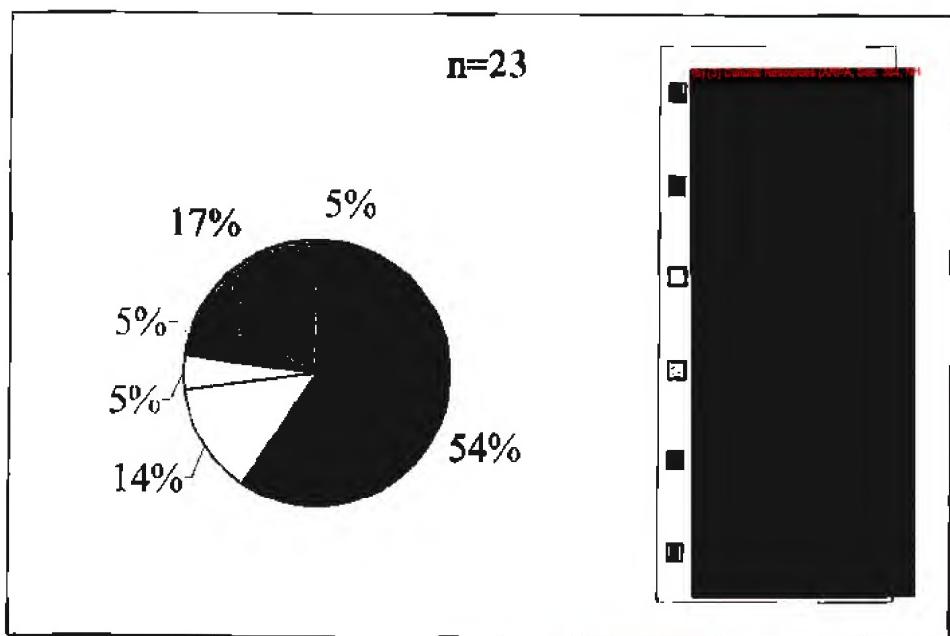


Figure 34. Obsidian sources represented in [REDACTED] from the Redmond Caves Parcel, including [REDACTED] from [REDACTED]

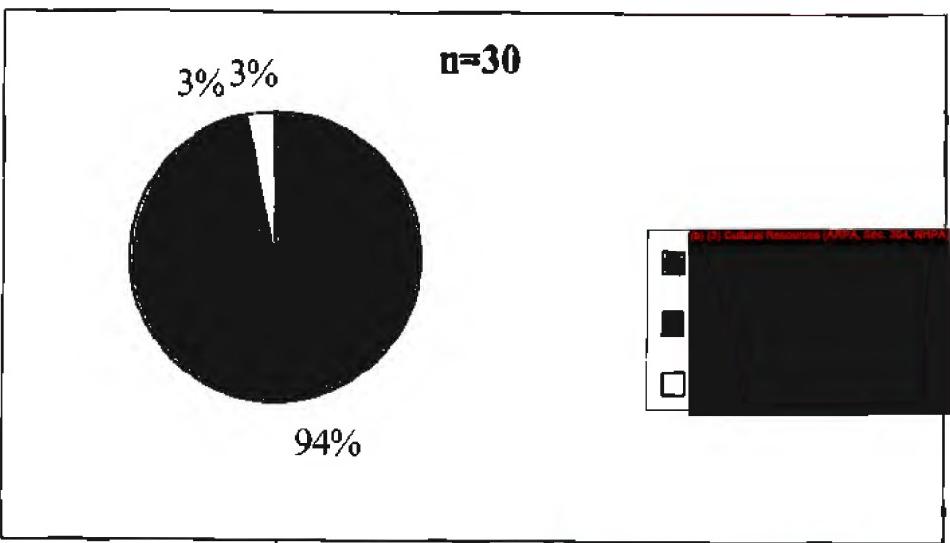


Figure 35. Obsidian sources represented in [REDACTED] from two sites [REDACTED] the Redmond Caves Parcel.

Ninety-four percent of the [REDACTED] submitted for analysis from [REDACTED] was sourced to [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA). [REDACTED] in Central Oregon (Skinner 2003). Only [REDACTED] (3% of the sample) came from [REDACTED] and another from [REDACTED]. About half (54%) of the [REDACTED] (2%) was sourced to [REDACTED] were sourced to [REDACTED] a [REDACTED] located in Central Oregon east-southeast of [REDACTED] (Skinner 2003). [REDACTED] (2%) was sourced to [REDACTED]. The source location of the [REDACTED] geochemical obsidian has not yet been identified, but based on the known characterization of obsidian [REDACTED] from this source it is probably located on the lower western slopes of [REDACTED] Skinner 2003). The [REDACTED] source is represented in [REDACTED] was sourced to [REDACTED] located in southcentral Oregon, in Klamath County. And [REDACTED] were sourced to [REDACTED] located near the [REDACTED] (Appendix B).

Perhaps the most curious aspect of these results concerns the large representation of [REDACTED] among the [REDACTED] from sites [REDACTED] Obsidian studies by Skinner (1995a,1995b) and Connolly (1999) have demonstrated spatial and temporal boundaries of utilization of [REDACTED] Connolly (1999) shows the relatively limited spatial distribution of [REDACTED] compared with [REDACTED] (Figure 13.1 & 13.2). The PGT-PGE Pipeline Expansion Project indicated dominate use of [REDACTED] in pre-Mazama times from several sites (Skinner 1995a, 1995b). This selective use of obsidian [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Hughes & Skinner

1994; Skinner 1995a, 1995b).

A larger sample of geochemically analyzed obsidian [REDACTED] from the Redmond Caves parcel is necessary in order to interpret the significance of the source diversity represented by [REDACTED]. Of particular interest is the high percentage of [REDACTED] at sites which have not demonstrated evidence of pre-Mazama deposits. Further analysis must also be conducted on the variation of results between cave and non-cave sites. Only [REDACTED] from [REDACTED] have been analyzed thus far. Geochemical characterization of [REDACTED] recovered from [REDACTED] is necessary to better address the relationship of cave vs. non-cave sites in the area.

Obsidian Hydration

Obsidian hydration is a dating technique known to archaeologists for at least four decades (Friedman and Smith 1960). It is based on the principle that atmospheric water diffuses into the surface and interior of the natural volcanic glass. This action produces a visible rim that can be viewed and measured with the aid of a microscope. Specimens are prepared on a thin-section slide and the thickness of the "hydration rind" is measured and recorded. These measurements produce evidence of relative dates, with thicker hydration rinds suggesting older dates. However, the hydration rates are known to vary with obsidian source material (Skinner 2002), therefore it is essential to perform X-ray fluorescence analysis to determine the source of the material in order to interpret the significance of the hydration reading for any given specimen.

Hydration rates are influenced by variables such as chemical composition, temperature, water vapor pressure, and soil alkalinity (Skinner 2002). Calibration of hydration rates must then be developed with consideration of physiographic region, climate, and geologic source material.

(b) (3) Cultural Resources (ARPA) [REDACTED] obsidian samples were sent to Northwest Research Obsidian Studies Laboratory in Corvallis, Oregon (Appendix B) for obsidian hydration analysis. Only (b) (3) Cultural Resources (ARPA, Sec. 304) [REDACTED] of these samples produced readable hydration rinds. Samples sourced to (b) (3) Cultural Resources (ARPA, Sec. 304) [REDACTED] obsidian were the most problematic, however this is typical for material from that parent source. Physical characteristics, such as the crystalline structure and opaque color, of obsidian from (b) (3) Cultural Resources (ARPA, Sec. 304) [REDACTED] contribute to the paucity of hydration readings from these specimens (Skinner and Thatcher 2003).

While results from (b) (3) Cultural Resources (ARPA, Sec. 304) [REDACTED] specimens are currently too few to provide convincing interpretations, the potential for hydration studies at the Redmond Caves Project is clear. Subsurface testing in sites (b) (3) Cultural Resources (ARPA, Sec. 304) [REDACTED] caves has not as yet produced suitable materials for radiocarbon analysis for dating. As the research continues with this project and a substantial amount of obsidian (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) [REDACTED] are analyzed, it is likely that hydration rates for sources represented in the Redmond Caves vicinity will become more refined. These results will enhance not only our understanding of human occupation on the Redmond Caves parcel, but also contribute significantly to the archaeology of central Oregon in general.

Debitage Analysis

A total of (b) (3) Cultural Resources (ARPA, Sec. 304) [REDACTED] was recovered from the probe and test units at (b) (3) Cultural Resources (ARPA, Sec. 304) [REDACTED] and (b) (3) Cultural Resources (ARPA, Sec. 304) [REDACTED]. Attribute analysis of these (b) (3) Cultural Resources (ARPA, Sec. 304) [REDACTED] was conducted in the laboratory by the UO class (Figure 36). The analysis was modeled on the technique proposed by Sullivan and Rosen (1985) and involved the categorization ofdebitage into flake class, size, and presence of cortex.

Flake class consists of four differentdebitage categories: complete flake, broken flake, flake fragment, and debris. A complete flake is a flake in which the striking platform (point of applied force) is present and the margins are intact (not broken). A broken flake contains the platform, but the margins are broken. A flake fragment is a flake in which the platform is missing. Debitage that exhibits no discernable single interior surface is classified as debris. Sullivan and Rosen (1985) argue that high proportions of broken flakes and flake fragments in an assemblage suggest that flaked tool manufacture occurred at the site, while high proportions of complete fragments and debris suggest core reduction.

The amount of cortex on each piece of debitage is used to determine whether a flake is categorized as a primary, secondary, or interior flake. A primary flake contains 90 – 100% of cortical material on the dorsal surface. The dorsal surface of a secondary flake contains a lesser percentage of cortex; while no cortex is present on an interior flake.

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

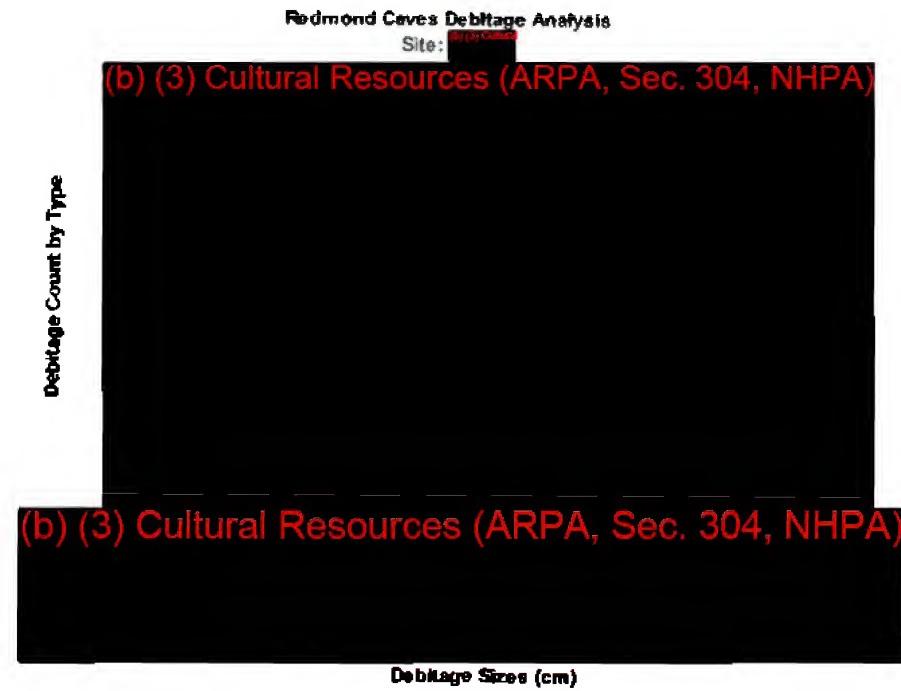
Although the sample is relatively small, results from the debitage analysis from [REDACTED] suggest [REDACTED] at the sites (Figures 37 and 38). [REDACTED]

[REDACTED] constitute 88% of the sample. Only 4% were categorized as complete. Further, [REDACTED] was evident on any of the [REDACTED] in the assemblage, resulting in 100% of the sample categorized as [REDACTED]. The small size of represented (<3 cm) at the site, along with these data, suggest that initial stages of [REDACTED] was conducted elsewhere and [REDACTED] were transported to the site for [REDACTED].

[REDACTED] Further research at these sites as well as at other sites in the area is required to ascertain a more complete understanding of site function.



Figure 36. UO student analyzing debitage in the lab.



Size (cm)	Count by Type/Size (cm)				
	Complete	Broken	Fragment	Debris	Total
<0.5	(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)				
0.5 < x < 1.0					
1.0 < x < 2.0					
2.0 < x < 3.0					
3.0 < x < 4.0					
Total					

Size (cm)	Percentage by Type/Size (cm)				
	Complete	Broken	Fragment	Debris	Total
<0.5	(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)				
0.5 < x < 1.0					
1.0 < x < 2.0					
2.0 < x < 3.0					
3.0 < x < 4.0					
Total					

Figure 37. Results of debitage analysis for site [REDACTED]

Redmond Caves Debitage Analysis
(b) (3) Cultural Resources
Site: [REDACTED]

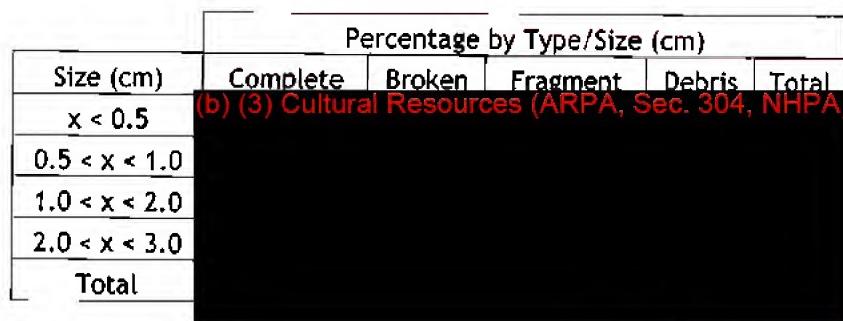
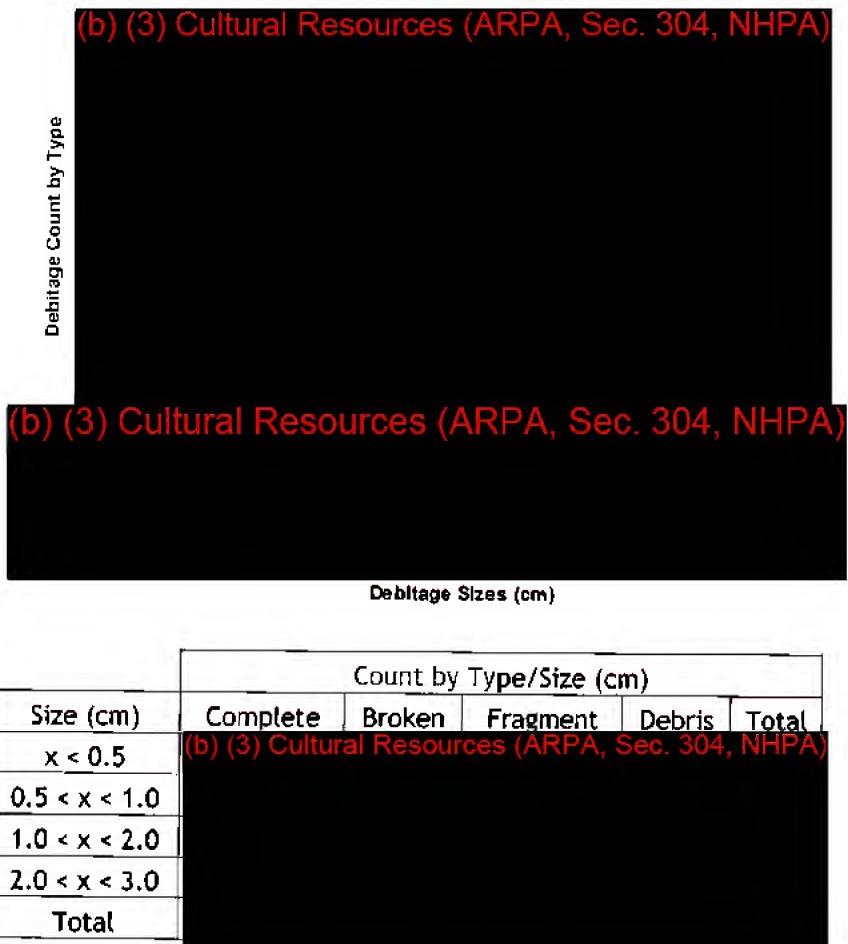


Figure 38. Results of debitage analysis for site [REDACTED]

Analysis of [REDACTED] from Redmond [REDACTED]

Basketry is among perishable remains from prehistoric sites highly valued by archaeologists for two main reasons. First, recovery of basketry items in archaeological sites provides the rare opportunity to conduct direct dating on cultural remains by radiocarbon analysis. Second, by studying stylistic variability of sandals and other woven materials across space and through time, researchers have gained valuable insights into cultural patterns and ethnicity of prehistoric populations (Connolly and Barker 2003).

Archaeologist Robert Heizer conducted investigations in the Redmond Caves in 1941. In addition to [REDACTED] (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) collected in the caves, a [REDACTED] was removed from the surface of [REDACTED] and curated in the Oregon State Museum of Anthropology in Eugene, Oregon (Figure 39). A piece of this [REDACTED] was sent to Beta Analytic, Inc. for AMS radiocarbon dating. Results from this analysis indicate that the [REDACTED] dates to 1820-1710 cal BP (Beta-177958, Appendix A).

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

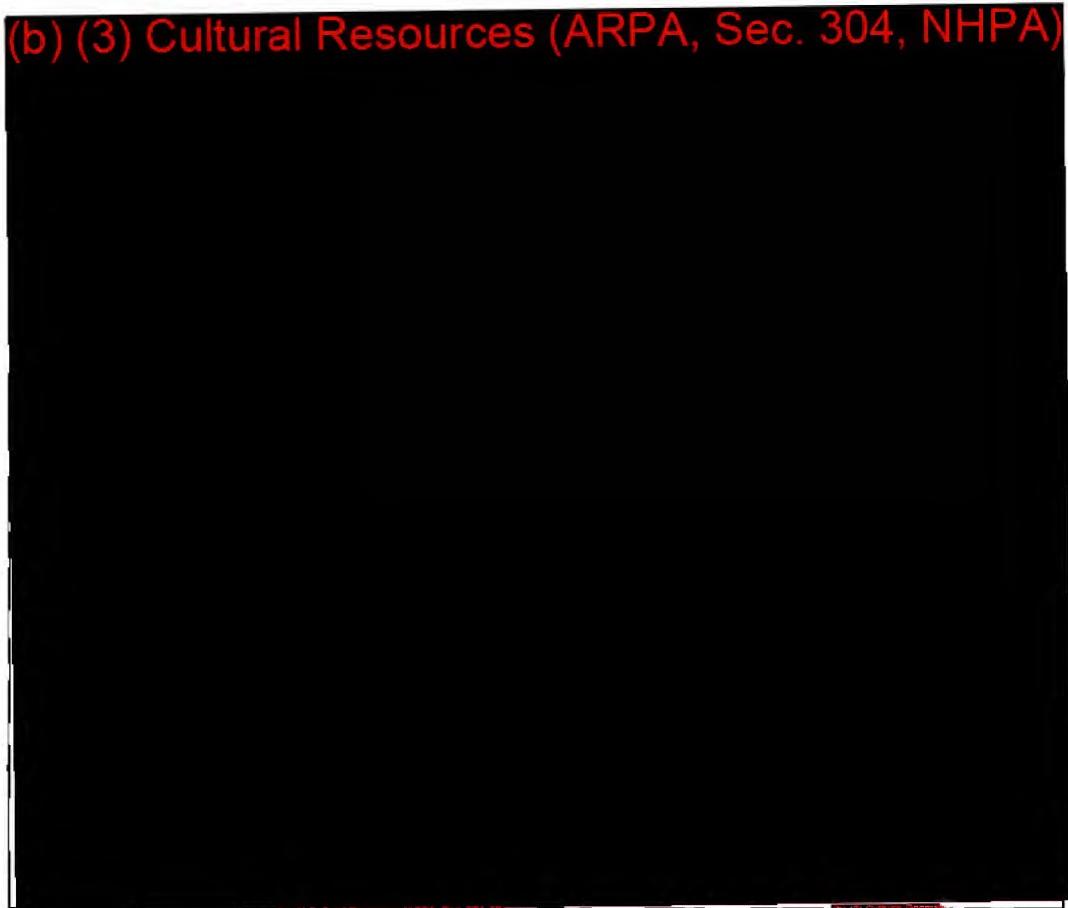


Figure 39. [REDACTED] recovered from Redmond [REDACTED] by Robert Heizer (1941).

There are three main types of sandal types represented in archaeological sites in the Northern Great Basin. These include the Fort Rock style, Multiple Warp and Spiral Weft types (Figure 40). The Fort Rock style sandal consists of an open twined toe flap, no heel pocket, usually has five robust warps, and falls within the dates of 10,500-9,200 cal. BP (Connolly and Barker 2003). Multiple warp type sandals date to a much broader time range, from 9,400 cal BP-contact. They are characterized by the following features: 8 or more sole warps, twined from heel to toe, sole and heel pocket cup around foot, and toe flap of untwined warp fibers (Connolly and Barker 2003). The spiral weft type dates from 9,400-1,700 BP and contains a flat sole, twined in spiral from the center, warps perpendicular to axis of foot, attached heel pocket, and no toe flap (Connolly and Barker 2003).

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)



Figure 40. (b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) represented in the Northern Great Basin
(from Connolly and Barker 2003.)

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

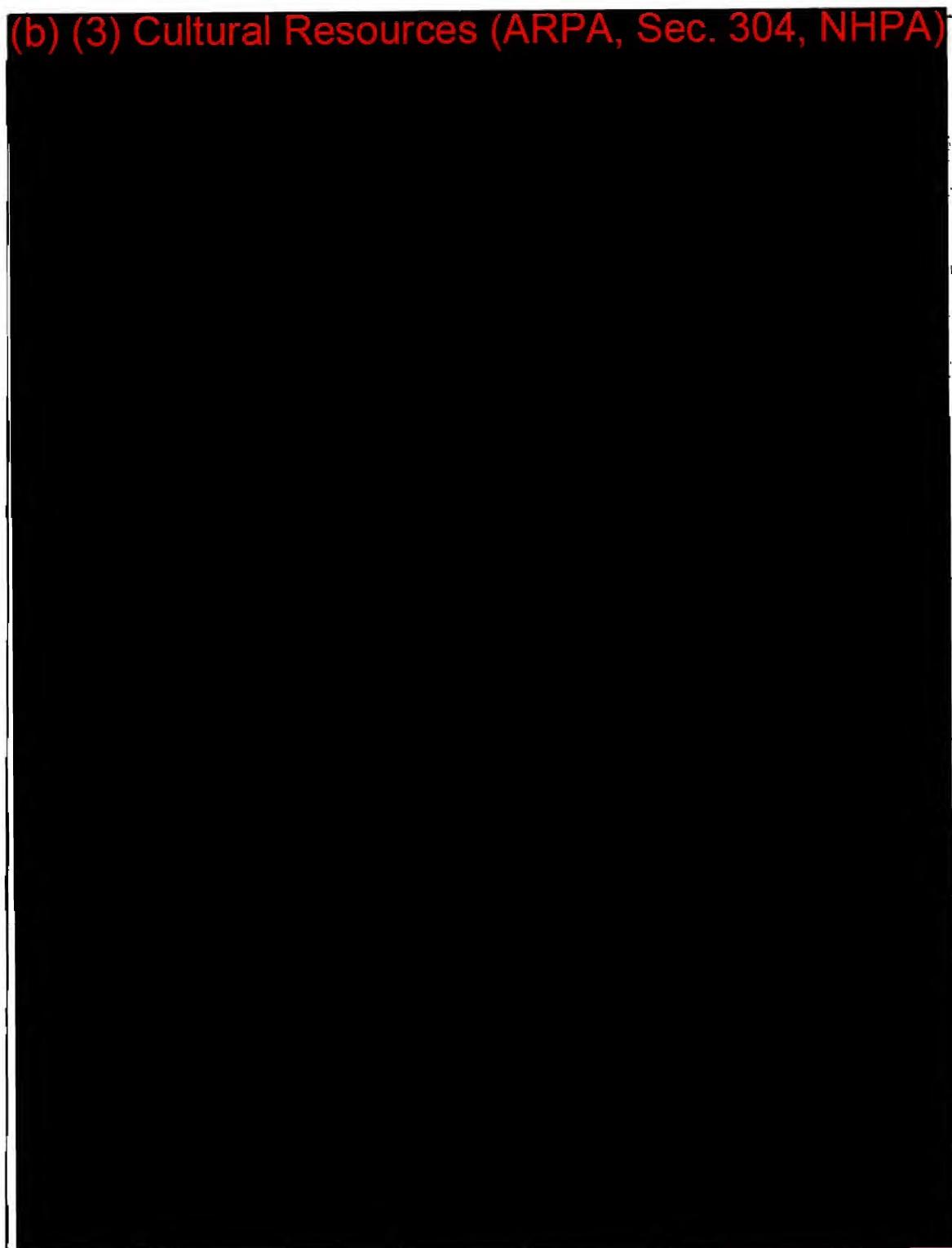


Figure 41. Distribution of distinctive sandal types (from Connolly and Barker 2003).

CHAPTER 5: DISTURBANCES

In addition to archaeological resources, modern disturbances have been documented at the Redmond Caves parcel. In the spring of 2003, a University of Oregon student conducted a systematic survey of the [REDACTED] to record all evidence of modern human encampments and garbage dumps. North/south transects were spaced at 5 meter intervals across the entire parcel. Photographs and GPS coordinates document the location and content of the disturbance. Glass dumps and can dumps will be subjected to further analysis in the Fall, 2003 in order to determine if any significant historic components are present in these locations. The locations of the dumps and encampments are shown in Figure 42. The letter "C" designates locations of encampments, while "D" is used to identify garbage dumps. Figures 43-61 are photographs that correlate to the locations on the map. As the Redmond Caves Archaeological Project continues, any new disturbances will be recorded and mapped.

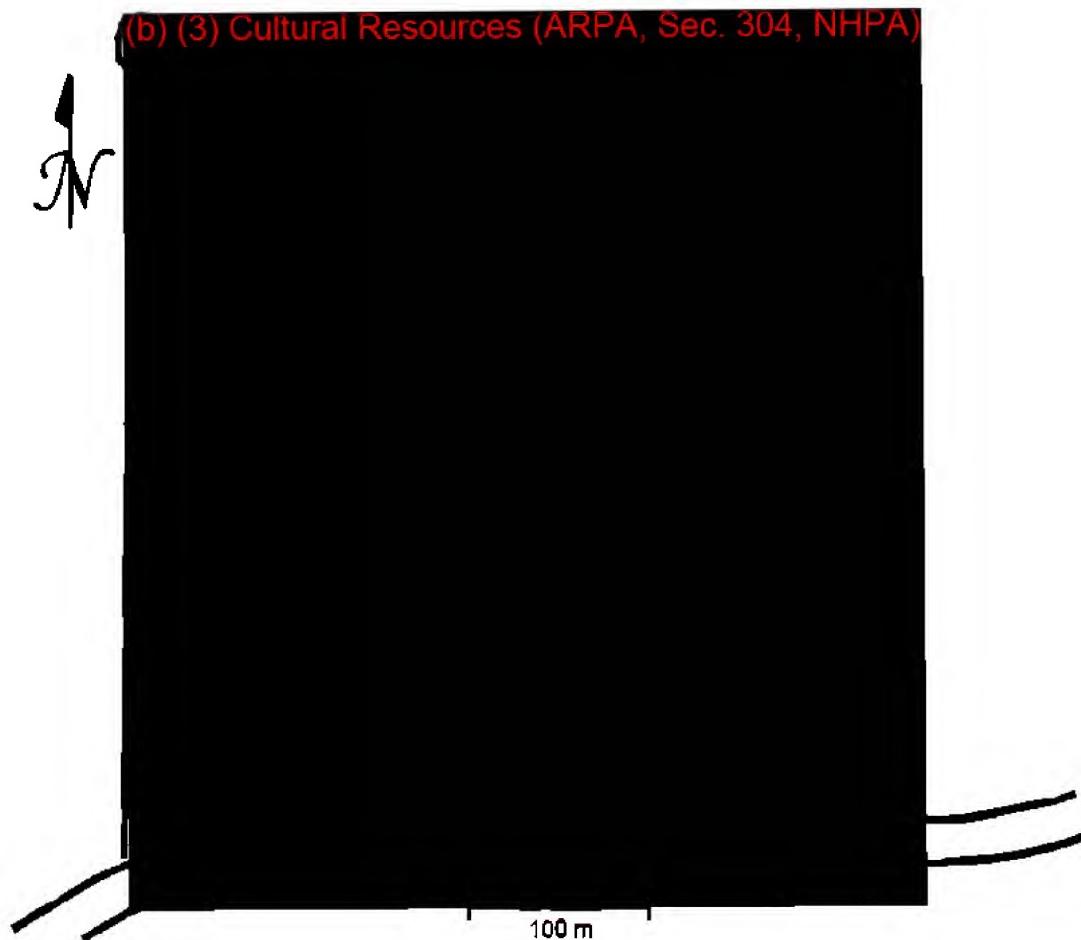


Figure 42. Map of Redmond Caves parcel, with locations of camps (C) and dumps (D) noted.



Figure 43. Can dump: map designation D1.



Figure 44. Camp detail: map designation C2.



Figure 45. Industrial dump: map designation D3.

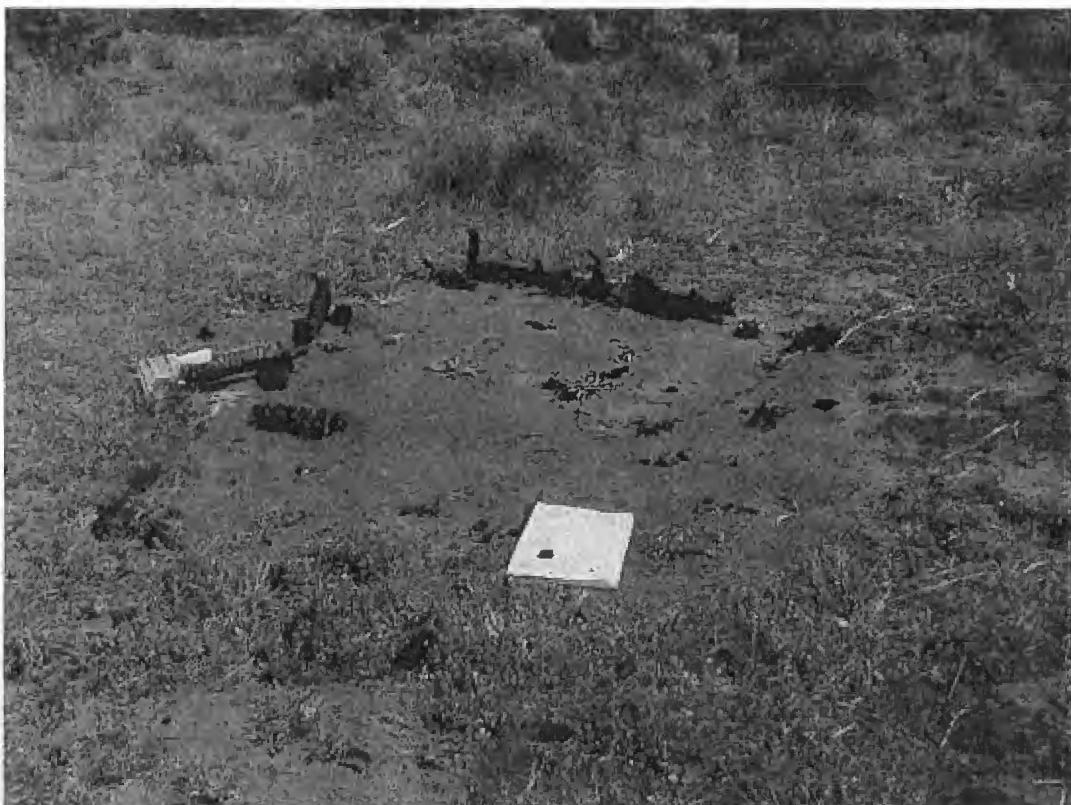


Figure 46. Camp detail: map designation C4.



Figure 47. Camp detail: map designation C5.

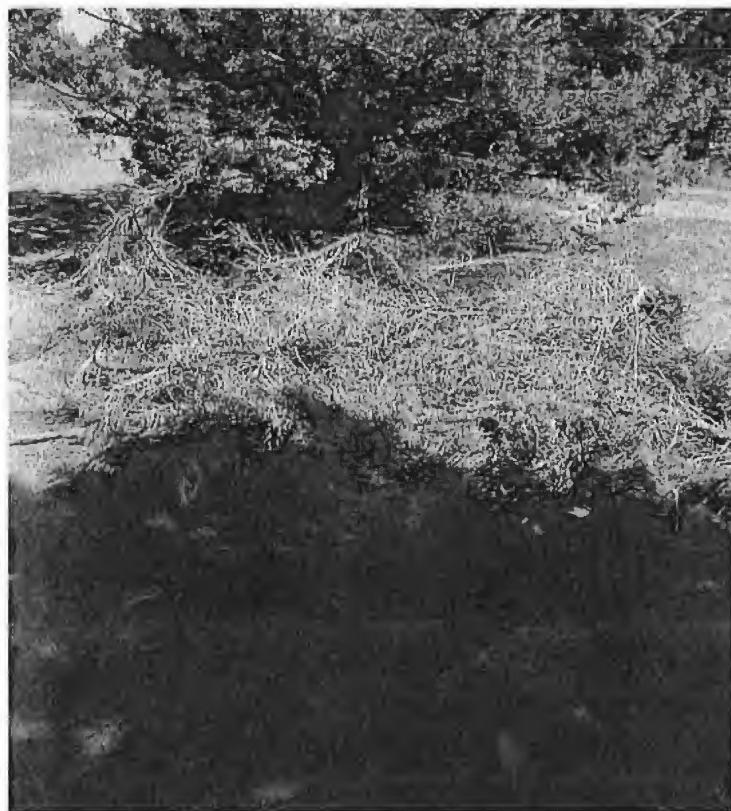


Figure 48. Yard waste dump: map designation D6.

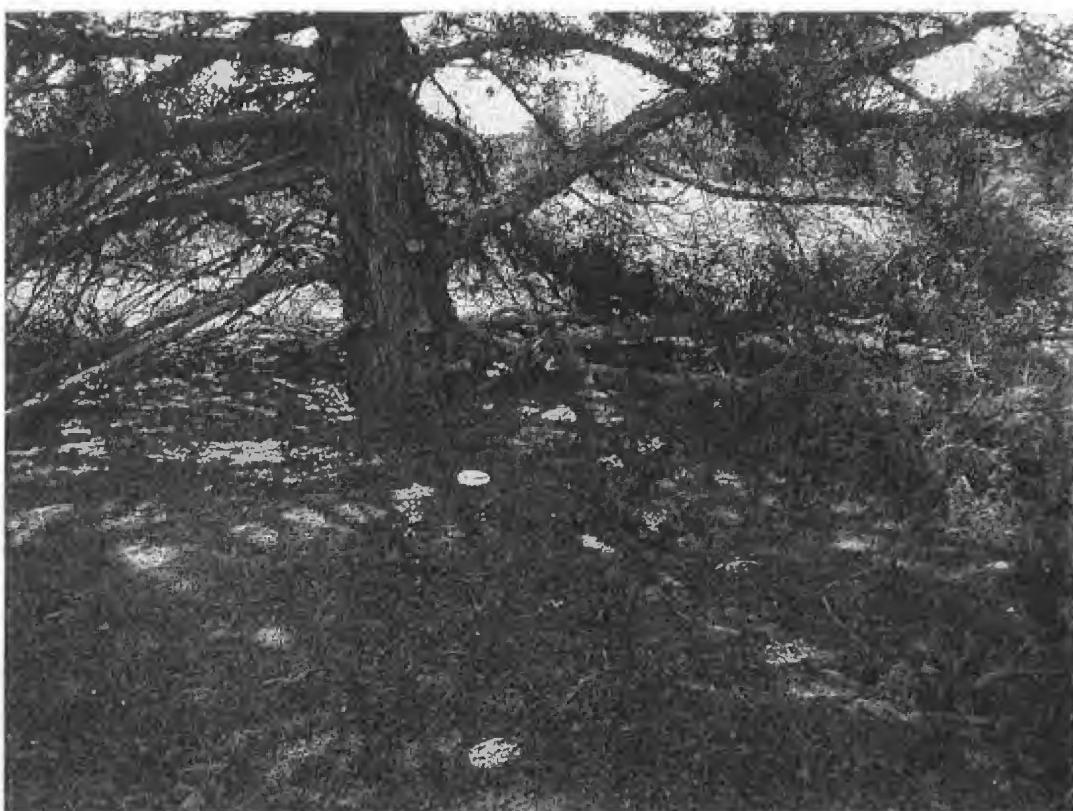


Figure 49. Encampment shelter: map designation C7.



Figure 50. Industrial dump: map designation D8.



Figure 51. Dump site: map designation D9.



Figure 52. Yard waste dump: map designation D10.



Figure 53. Can dump: map designation D11.



Figure 54. Yard waste dump: map designation D12.



Figure 55. Encampment shelter: map designation C13.



Figure 56. Encampment shelter: map designation C14.

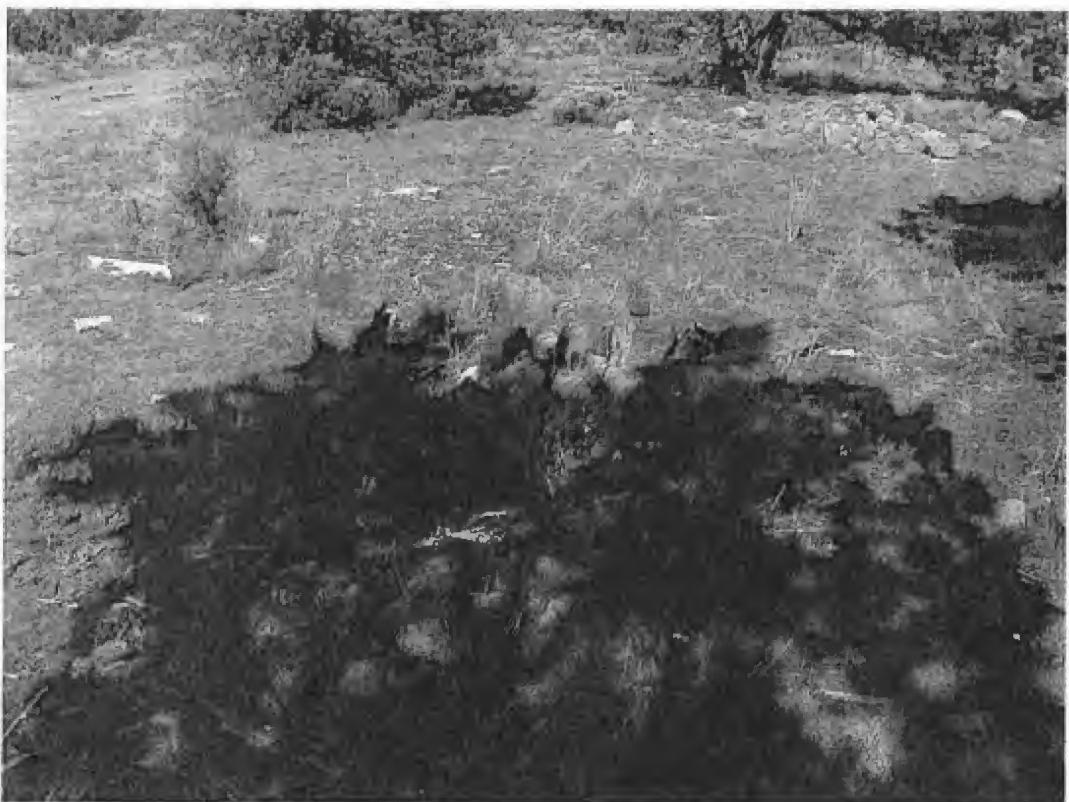


Figure 57. Garbage dump: map designation D15.



Figure 58. Garbage dump: map designation D16.



Figure 59. Encampment detail: map designation C17.



Figure 60. Encampment shelter: map designation C18.



Figure 61. Garbage dump detail: map designation D19.

CHAPTER 6: CONCLUSION

This report represents the completion of the first year of a multi-year project in which University of Oregon students, under the guidance of the staff at the Oregon State Museum of Anthropology, engage in archaeological research at Redmond Caves. The work is being conducted for the City of Redmond and the Bureau of Land Management, who are engaged in a collaborative effort to develop the ████████ BLM parcel into a city managed park. Students involved in this project are enrolled in the Archaeology Field Studies class (ANTH 408) in Bend. The course is offered in the Fall and Spring terms; each term is divided into fieldwork and laboratory analysis (Figures 61 and 62).

Archaeological investigations at the Redmond Caves parcel for Fall Term 2002 included a pedestrian survey (in which sites and isolated finds were identified and mapped), subsurface testing in the proposed parking lot area, subsurface testing in site ████████ and analysis of ████████ recovered from the caves by Robert Heizer in 1941. The survey was conducted by walking north-south transects at 5 meter intervals. A total of seven sites ████████
(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) ████████
(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) and seven isolates outside the caves were identified and mapped. The sites were characterized by ████████ of
(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA) recovered from surface collections are represented by both small Late Holocene ████████ and Middle Holocene ████████. Subsurface investigations conducted during the Fall included six 50x50 cm probes in site ████████ and twenty 50x50 cm probes in the location of the proposed parking lot and visitors' center.

Subsurface investigations continued in the Spring, 2003 at three sites in the Redmond Caves vicinity. Seven more 50x50 cm probes and two 1x1 meter units were excavated in ████████. Twenty-two 30x30 cm exploratory probes were excavated in ████████ and one 50x50 cm probe and two 1x1 meter test pits were excavated in ████████.

A total of thirteen probes were excavated in ████████ over the span of two terms. These probes helped determine the actual site boundaries and areas of highest concentration of archaeological resources within the site. Although no ████████ was clearly identified in the site, ████████ produced a concentration of ████████ suggestive of ████████ in the site.

A series of twenty-two exploratory probes in ████████ resulted in the recovery of very few archaeological remains in the site. Although ████████ have been collected from the surface of ████████ only a ████████ were recovered in the subsurface probes. No further testing is necessary at this site.

The two 1x1 meter units in ████████ were placed in a ████████. The deposits in this site were shallow, and while no features were identified, the units produced the greatest number of ████████ thus far excavated in the Redmond Caves project area.

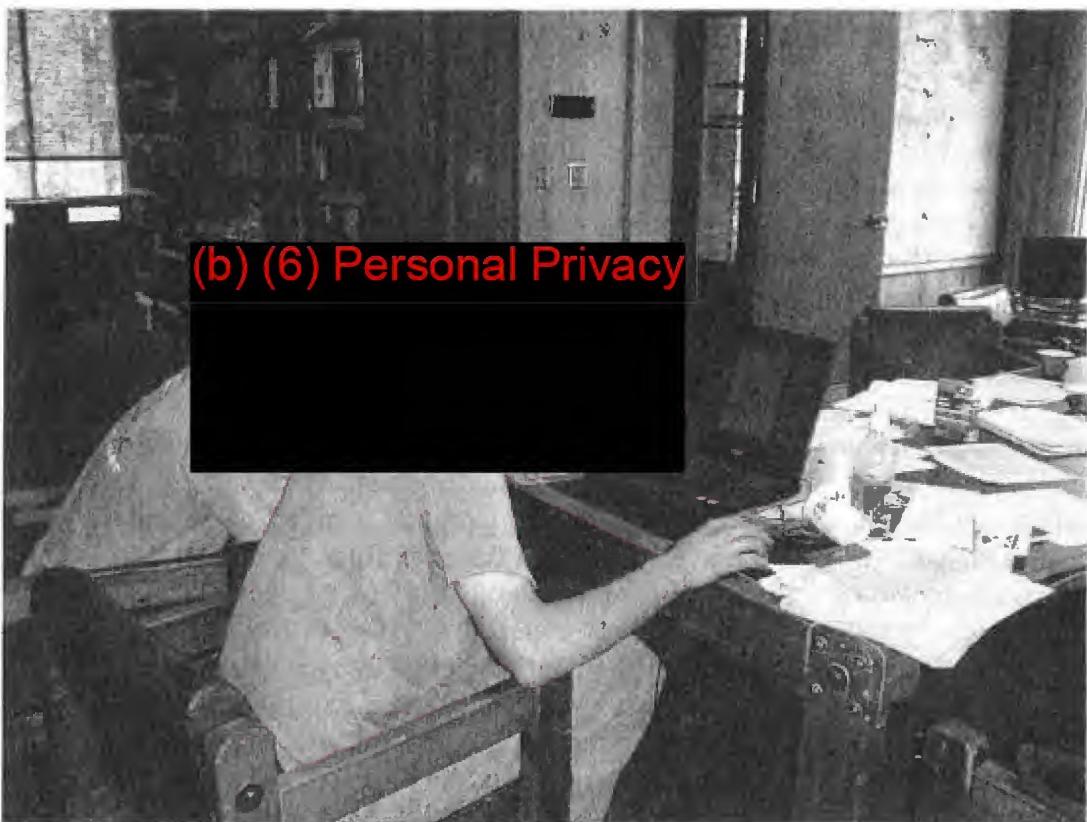


Figure 61. University of Oregon students doing lab work.

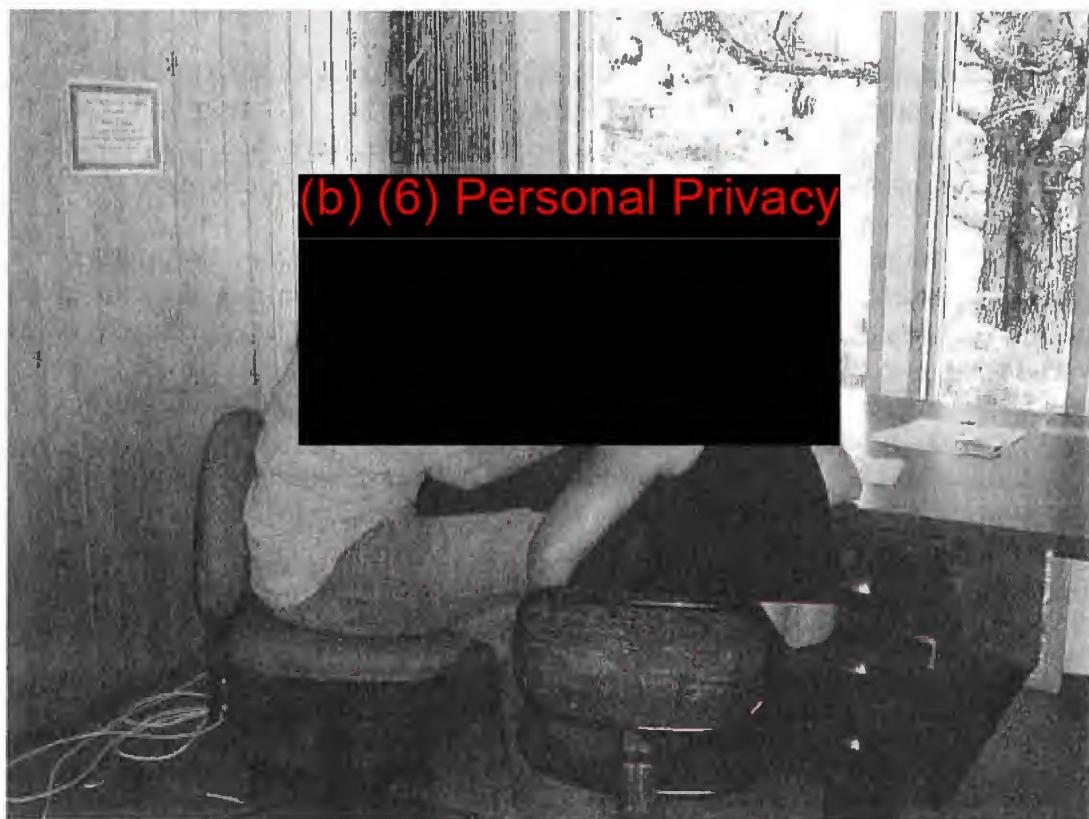


Figure 63. University of Oregon students doing lab work.

In addition to field excavations and labwork, special studies were conducted on [REDACTED] from the Redmond Caves project. X-ray fluorescence was performed on obsidian [REDACTED] by Northwest Research Obsidian Laboratory in Corvallis, Oregon. Results of this analysis, presented in Appendix B, indicates that six separate geochemical sources are represented at the Redmond Caves sites. These include [REDACTED]

(b) (3) Cultural Resources (ARPA, Sec. 304, NHPA)

Most interesting are the results that indicate a high percentage of [REDACTED] obsidian among the [REDACTED] Analysis of [REDACTED] suggest that the Redmond Caves sites date to the Middle and/or Late Holocene; however, [REDACTED] was utilized as an obsidian source most predominately before the eruption of Mount Mazama. These results need further analysis, including comparisons with patterns exhibited from other sites in Central Oregon. Further analysis will also be necessary to gain a more complete understanding of the obsidian hydration results. It is hoped that hydration rates for various obsidian sources in the Central Oregon sites will become more refined as a result of this project.

Radiocarbon analysis on a [REDACTED] fragment recovered by Robert Heizer from the surface of [REDACTED] was conducted by Beta Analytic in Miami, Florida. Results indicate that the [REDACTED] dates from 1820-1710 cal BP.

Plans for the second year of the Redmond Caves Archaeological Project include analysis of the can and glass dumps to assess the age of these deposits, testing at [REDACTED] and [REDACTED] further mapping of the [REDACTED] parcel in order to produce a more refined topographic map of the area, and beginning the investigations of archaeological resources within the caves. These activities will take place with close consultation with the Bureau of Land Management and the City of Redmond.

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APPENDIX A

BETA ANALYTIC REPORT OF RADIOCARBON DATING ANALYSES

BETA**BETA ANALYTIC INC.**

DR. M.A. TAMERS and MR. D.G. HOOD

UNIVERSITY BRANCH
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MIAMI, FLORIDA, USA 33155
PH: 305/667-5167 FAX: 305/663-0964
E-MAIL: beta@radiocarbon.com

REPORT OF RADIOCARBON DATING ANALYSES

Dr. Dennis L. Jenkins

Report Date: 4/24/2003

University of Oregon

Material Received: 3/31/2003

Sample Data	Measured Radiocarbon Age	$^{13}\text{C}/^{12}\text{C}$ Ratio	Conventional Radiocarbon Age(*)
Beta - 177958 SAMPLE : 1-11921 ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (bark): acid/alkali/acid 2 SIGMA CALIBRATION : Cal AD 100 to 260 (Cal BP 1860 to 1690) AND Cal AD 290 to 320 (Cal BP 1660 to 1630)	1820 +/- 40 BP	-24.7 ‰	1820 +/- 40 BP

Dates are reported as RCYBP (radiocarbon years before present, "present" = 1950 A.D.). By International convention, the modern reference standard was 95% of the C14 content of the National Bureau of Standards' Oxalic Acid & calculated using the Libby C14 half life (5568 years). Quoted errors represent 1 standard deviation statistics (68% probability) & are based on combined measurements of the sample, background, and modern reference standards.

Measured C13/C12 ratios were calculated relative to the PDB-1 international standard and the RCYBP ages were normalized to -25 per mil. If the ratio and age are accompanied by an (*), then the C13/C12 value was estimated, based on values typical of the material type. The quoted results are NOT calibrated to calendar years. Calibration to calendar years should be calculated using the Conventional C14 age.

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.7:lab. mult=1)

Laboratory number: Beta-177958

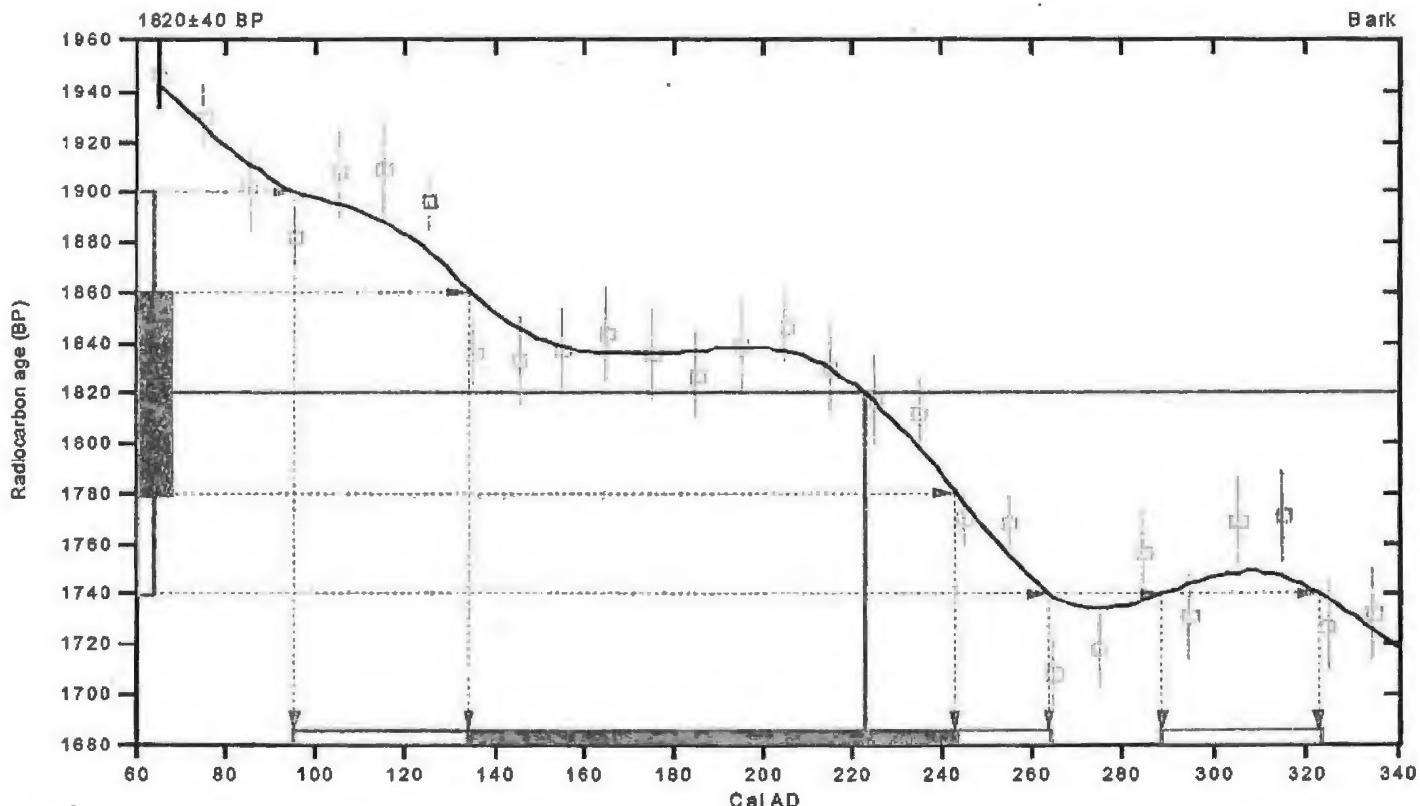
Conventional radiocarbon age: 1820 ± 40 BP

2 Sigma calibrated results: Cal AD 100 to 260 (Cal BP 1860 to 1690) and
(95% probability) Cal AD 290 to 320 (Cal BP 1660 to 1630)

Intercept data

Intercept of radiocarbon age
with calibration curve: Cal AD 220 (Cal BP 1730)

1 Sigma calibrated result: Cal AD 130 to 240 (Cal BP 1820 to 1710)
(68% probability)



References:

Database used

Calibration Database

Editorial Comment

Stuiver, M., van der Plicht, H., 1998, Radiocarbon 40(3), pxi-xiii

INTCAL98 Radiocarbon Age Calibration

Stuiver, M., et. al., 1998, Radiocarbon 40(3), p1041-1083

Mathematics

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2), p317-322

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